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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1991

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

ON

H.R. 5019

AN ACT MAKING APPROPRIATIONS FOR ENERGY AND WATER DEVELOPMENT FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1991, AND FOR OTHER PURPOSES

PART 2 (Pages 1–1066)

Nondepartmental Witnesses

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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1991

TUESDAY, MARCH 27, 1990

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m., in room SDG–50, Dirksen Senate Office Building, Hon. J. Bennett Johnston (chairman) presiding.

Present: Senators Johnston and DeConcini; also present: Senators Bumpers and Breaux.

NONDEPARTMENTAL WITNESSES

INTRODUCTORY REMARKS OF SENATOR JOHNSTON

Senator JOHNSTON. Welcome everyone—and a special welcome to our friends from the Red River Valley Association; people from the Lower Mississippi Valley Association, the MO-ARK Association, and the States represented in those groups.

These associations cover nearly all the great rivers of our Nation, but, most of all, the important rivers. Ladies and gentlemen, I have said many times that of all the groups that visit Capitol Hill, those that come to build America, that come here in support of projects for river systems are, by and large, the best builders, the best community people, the strongest citizens of any group that I see on Capitol Hill. You are the people who build the Nation's infrastructure, who make the economy go.

NEED FOR ECONOMIC DEVELOPMENT

Today, we are going to deal with an especially important matter as far as the economy of Louisiana is concerned. As you all know, the economy of Louisiana is in bad shape. People are hurting. We have made real progress, but we have a long, long way to go.

The key to economic recovery in Louisiana is to diversify that economy and the key to diversification of the economy in northwest Louisiana and central Louisiana is the Red River navigation system.

Now ladies and gentlemen, I intend, and I know you intend, to bring Red River navigation to Shreveport by 1994 and beyond Shreveport in the years after that. We must do it, because it is the right thing to do for the country and for our region.

We are two-thirds into that project—two-thirds of the money has been appropriated and yet the administration would like to stop the project at Colfax—losing over two-thirds of the project benefits.

It would be a grave mistake for the country. I am sorry that this President has joined in with other Presidents who have fought this project, but we fought President Jimmy Carter and we won. We fought President Ronald Reagan and we won and we are going to fight President George Bush and we are going to win because we are right. We must win. It is important; indeed, it is essential for our area. [Applause.]

All of you know we are trying to move Heaven and Earth to get McDonnell-Douglas to come bring their 6,500 direct employees and probably 20,000 total employees, to the Shreveport-Bossier area in northwest Louisiana. If we can get that industry, it will revolutionize the whole economy of the region.

It will, in one single stroke, turn a downturn in the economy into real prosperity, by one single stroke. I do not know whether we are going to be able to get McDonnell-Douglas or not. We are still in the running, so far as I know, and I am trying to do everything I can. I know Governor Roemer is doing everything he can.

The chambers of commerce are doing everything they can. One thing I know—the Red River navigation project is one of the keys to getting McDonnell-Douglas. Indeed, they plan to bring those big tail sections up the river as far as Colfax until we are complete to Shreveport, offload it there, and transport them by road.

This is just one illustration of how vital river transportation is, what a great industrial development key it is. Even if we do not get McDonnell-Douglas, this river and the navigation benefits, the lower rates—the ability to move bulk cargo are going to mean a lot for getting other industries, and we are going to find, a decade from the time we finish that river system, that it has brought an immense amount of jobs and economic benefits to northwest Louisiana.

It is a fight we are going to win. We must win and we are going to pull together to get it done. Now, we also have some very important other river systems and they will get strong support from this committee as they always have, but our fight for the Red River Waterway is just so vital and so key this year that I had to make these remarks, to tell you how deeply, how strongly I believe that we have to win the fight.

Missouri Water Resource Projects

STATEMENT OF HON. CHRISTOPHER BOND, U.S. SENATOR FROM MISSOURI

Senator Johnston. Now, we want to start off this morning with Senators and Members of Congress to introduce their people. We are very, very pleased to have Senator Kit Bond from Missouri to introduce some of those from the MO-ARK Association.

Kit, glad to have you.

Senator Bond. Thank you very, much, Mr. Chairman, and my thanks for allowing me to proceed. I have the privilege of introducing two good friends from the heartland of America.

First, one of my constituents. It is a pleasure to present to the committee one of the great leaders of Kansas City, MO, Mayor Pro Tem Rev. Emanuel Cleaver. Reverend Clever is a third-term councilman from Kansas City.

Today he is testifying as a representative of the Missouri-Arkansas River Basin Association and will offer what I think will be useful information to help the committee in setting priorities for fiscal year 1991.

Specifically, Reverend Cleaver is urging continued support for several projects and new start support for the remaining phase of the Brush Creek project. The importance of Brush Creek has been recognized in the past by Congress and the U.S. Corps of Engineers through funding and technical support. I hope that there is still a consensus about the importance of this project.

Also testifying with Reverend Cleaver will be Mayor Neale Peterson of Fairway, KS, who is chair of the storm water management committee of the Mid-America Regional Council.

Senator **Johnston**. Thank you very much, Senator Bond. Let me just say that I am a strong supporter of the MO-ARK Association and I have spoken to them as we try to support their projects.

I might also say that we want to build I–49 up through your country, up through Arkansas and Missouri. Almost 20 years ago I made a trip to that country for what we called at that time the MO-ARK-LA Association, trying to get support for I–49 to come north.

So that is a project, although not concerned with this energy and water bill—that I look forward to working with you on at a later time.

Senator **Bond**. Mr. Chairman, we have worked together for many years. When I was Governor, we recognized the importance of that southward link. There is some disagreement among a number of communities in Missouri through which town it should run, but I believe connecting New Orleans and Kansas City would offer great, tremendous benefits to both communities, and we would welcome our good friends from New Orleans visiting Kansas City on an even more frequent basis than we visit New Orleans. We will look forward to working with you on that measure as well.

Senator **Johnston**. Thank you very much, Senator Bond, I appreciate that.

Senator **Bond**. Thank you, Mr. Chairman.

Senator **Johnston**. Gentlemen, I wonder if we could get you to wait just a few minutes and we will go in order as it appears on the schedule. We will call you in just a few minutes.

ADDITIONAL PREPARED STATEMENT SUBMITTED BY SENATOR PRYOR

We expect several statements will be submitted by other Members of the Senate—these will be made part of the record at this point, along with any other statements from Members of Congress.

[The statement follows:]

STATEMENT OF SENATOR PRYOR

Mr. Chairman, I am honored that you have allowed me to be here today with my friends and constituents representing the various water resource interests in my home State of Arkansas. This is an important occasion, not only for those of us from Arkansas, but also for your constituents in Louisiana and the many others representing states throughout the Mississippi River Valley.

This is the twelveth consecutive year that I have appeared before your Subcommittee to express my concerns for our water resources in "THE NATURAL STATE", Arkansas, and to show my unity of purpose with these leaders who have come so far to Washington, D.C. to tell this Committee of their problems and hopes for their future. Thank you for granting us this time and for your attention to our needs.

WEST MEMPHIS, ARKANSAS

Mr. Chairman, two years ago I testified about the terrible flooding problems the City of West Memphis, Arkansas was experiencing, following a devastating tornado that had ripped through the city just days before Christmas, 1987. I spoke to the Committee Members about the burdens the city was facing with the cost-sharing requirements for participating in a flood control project the Army Corps of Engineers had designed.

Mr. Chairman, this problem is not resolved yet. But I think we are closer to working out a Local Cooperation Agreement than we have ever been. On the 7th of March Senator Bumpers and I met with city officials and the representatives of the Corps of Engineers in an effort to get this project under construction. Mr. David Gwaltney of your staff was present at that meeting, and I believe real progress was achieved.

The Army indicated at that meeting that, given funding in the FY 1991 appropriations bill, construction on this project could begin in the Spring of 1991. It was my understanding from that meeting, that such a timely start could possible enable the project to be completed as early as the end of calendar year 1992 or in the following spring. Although, because this would technically be a new start, the Corps will not express a capability, I am informed by the Mayor of West Memphis that Corps project leaders have indicated it would take $3.4 million in FY

91 to get the project on a course to maintain this anticipated completion date. I will provide the Committee with documentation to that effect.

I am hopeful that we can keep the Army on such a schedule. We will need the assistance of this Committee, and, Mr. Chairman, I am here today to ask that you help to provide the funding the Corps needs to do that.

RED RIVER VALLEY

As you know, Mr. Chairman, I share your deep and abiding interest in the Red River Valley that our states have in common. You will have a prepared statement today from our mutual friend, Mr. John Stroud of Texarkana, outlining the needs that exist in the Valley today.

At the top of the list of those needs as we see them in Arkansas is the continuation of the Red River Emergency Bank Protection program. The Red River Commission has asked for $7.2 million for continuing this program in 1991, and I wholeheartedly support that figure, Mr. Chairman. The Brown Bend Realignment and the Slay Bend Revetment have been identified by the Vicksburg District of the Corps of Engineers at two projects that should be constructed simultaneously, and $4.1 million of these funds would be put to that purpose. Funding for the Slay Revetment is available now. The remaining $3.1 million would be applied to the Finn Revetment, located in this reach of the river also.

I also wish the Committee to know, Mr. Chairman, that I continue to support the necessary funding to continue the Red River Basin Comprehensive Study, the Waterway Project-Shreveport to Index, Arkansas, and the Red River Levees and Bank Stabilization below Dennison Dam project. Mr. Stroud will elaborate on these and the other interests we have on the Red River at length. I support his conclusions, and I ask that this Committee, as it has always done in the past, to carefully consider these important projects as an investment in America's future.

OUACHITA RIVER NAVIGATION PROJECT

Mr. Chairman, I continue my interest in the Ouachita River Navigation Project, and I hope this Committee will continue to be sensitive to the difficulties we are facing with it now. As you know the Corps of Engineers has determined to cease further construction at this time because of a problem with cost sharing. I know you are aware of this, and I can only say that I want to work with you in any way appropriate to resolve this issue and allow the project to be completed as originally designed.

I seek your advice and counsel, and I think my colleagues in the Arkansas Congressional delegation feel the same way.

ARKANSAS RIVER BASIN

This Committee will also hear from representatives of the Arkansas River Basin Interstate Committee during this series of hearings. The testimony they will provide is going to focus this year on the need for a new structure on the Arkansas River to correct a flaw in the navigation system that has been exacerbated in recent years by low water on the Mississippi River.

The Little Rock District of the Army Corps of Engineers has been studying this problem, and, I am informed, plans to release its findings and recommendations later this year when their report is complete. At this time we do not have an Environmental Impact Statement or a total anticipated cost figure. The District Engineers has indicated to me that the Corps will probably recommend a structure on the river that will ultimately cost in the neighborhood of $175 million.

It is not yet known whether or not this structure will require additional authorization. Local interest groups and the Arkansas Waterways Commissions have stated that they do not feel additional authorization will be needed.

I hope this Committee will listen closely to the testimony that will be presented on behalf of the Interstate Committee and carefully consider its recommendations.

CONSULTANTS/OUTSIDE CONTRACTORS

Lastly, Mr. Chairman, I want to take this time to bring to your attention a problem that I am seeing in so many agencies of our government. It is the practice of hiring outside consultants to perform studies and other work that our federal employees should be doing "in-house."

The Army Corps of Engineers is in the middle of studies, being performed by outside, paid consultants, to determine whether or not certain jobs in some of our Districts in Arkansas should be performed by private enterprise. I am all for saving tax dollars where they can be saved while getting the job done. I am also not certain that we are going to achieve these desired results when we see the study's recommendations.

At some point in the future I am going to be interested in learning how much money the Corps is spending on these studies, and how much we might be saving if we go to outside private enterprise to fill these jobs. In my judgement we ought to reserve the right to disallow the Corps from contracting out jobs where the long term best interests of the taxpayers are not well served. I am not persuaded that our multi-million dollar public works projects should be passed around to "the low-bidder" each time a new contract for maintenance or operation of a facility is up for renewal.

I thank the Chairman for granting me this time to express my views on these issues of importance to the State of Arkansas.

Senator JOHNSTON. Are there any other Members of Congress or Senators present? If not, we will proceed with the star group of the morning show, Gen. Ed Harris, who is president of the Red River Valley Association, along with the co-star of the show, who is Mr. Don Duggan, who is chairman of the board of directors of the Red River Valley Association.

Gentlemen, if you would come up, we would be delighted to hear from you.

Mr. DUGGAN. Mr. Chairman, I do not believe you have any members of your committee here this morning.

Senator JOHNSTON. We have a quorum.

RED RIVER VALLEY WATER RESOURCE PROJECTS

STATEMENT OF DON DUGGAN, CHAIRMAN OF THE BOARD, RED RIVER VALLEY ASSOCIATION

Mr. DUGGAN. Mr. Chairman, I am Don Duggan, chairman of the board of the Red River Valley Association. We are a 65-year-old organization and we represent citizens from all walks of life, in the four States comprising Arkansas, Louisiana, Oklahoma, and Texas.

All of these people are vitally concerned with the continued development of the water and land resources of the Red River basin.

At this time, we brought some important people with us and I would like to introduce them. First of all, you have introduced General Harris, who is the president.

Would you stand?

We have mayors—Mayor DeMint from Bossier City and Ed Randolph from Alexandria—and I would like to ask everybody who is here with us this morning to stand, let us show our support. [Large group standing.]

You will be addressed during our presentation today by my colleagues from each of the four States that are represented by our association regarding specific needs that are within their own State.

ECONOMIC CONDITION OF THE REGION

But before they begin, I would like to briefly comment on a few concerns for the future physical and economic well-being of the millions of citizens residing in this four-State Red River basin area.

I know that you are aware of the depressed economy in our State and I am sure that these problems exist in our sister States. I do not think they are faring any better than we are.

But for the benefit of your other committee members, who I assume will show up later, and since we have a quorum I am sure you will advise them, I would like to inform you of the severity of the depression that we have experienced since 1983, brought on by the collapse of the oil and gas industry.

Now, some signs indicate that we have bottomed out. A recovery perhaps is in process but it has been and is a slow and painful process. I am reliably informed that in the city of Shreveport, in which I reside and have my business, that 62 former drilling contractors are no longer there and that knocked a big hole in our economy.

This has certainly had an adverse effect on most everything, every other type of business. I heard a veterinarian say he did not realize that he was in the oil business until we did not have any oil business.

Now cheap energy is spurring growth in other parts of the Nation. What is making the rest of the Nation flourish is what is killing us and it is hampering our recovery. Now, while we were experiencing unprecedented prosperity a few years ago and one of our former Governors expressed the embarrassing riches that we enjoyed, we were levied a so-called windfall profits tax.

And that tax extracted some $70 billion from our four States, and this causes me to repeat, as I have said many times before, we have paid our dues. We need your help. We seek your understanding and consideration.

The cities of Natchitoches, Alexandria, Bossier City, and Shreveport have already invested millions of dollars in port facilities, and if we do not have funding for the continuation of locks and dams 4 and 5, this money will be wasted.

We want to thank you for the tremendous support you and your members have given Red River navigation to bring it this far, but, since full benefits from the waterway cannot begin until completion, we still need your support for the simultaneous construction and completion of the remaining two locks and dams by the mid-1990's.

We continue to lose thousands of acres of land between Texarkana and Shreveport every year due to bank erosion, and this results not only in the loss of nonreplaceable farmland, but it also poses a threat to levees, bridges, and utility lines.

We know that you aware of the importance of clean water, how critical it is to our future. Also, other benefits of the Red River such as emulation of tourism through recreational development, these are strong factors in the economic outlook of our area.

Again this year we are coming to you to humbly, sincerely ask you for your understanding and help to fund these needs, provide these jobs, and complete these projects that will give us the opportunity to diversify from oil and gas to a broader based economic resurgence.

Our leadoff witness this morning is Mr. Bill Chapman. He is the vice president of the Red River Valley Association and he represents the great State of Oklahoma.

Senator JOHNSTON. Bill, would you hold just a minute before we hear from you because the distinguished Senator from Arkansas has just arrived.

Let me say, one reason we do not have more members here is because there is a ceremony this morning for Dwight D. Eisenhower. Some of you remember Ike and Senator Mitchell, the majority leader, actually requested that Members attend and cancel committee hearings. We said there is no way we are going to cancel this hearing.

So I am especially pleased that Senator Bumpers saw fit to be here; he has a double conflict on this schedule and he still came.

So, Senator Bumpers, I am very pleased and grateful you came. We would like to recognize you at this time.

STATEMENT OF HON. DALE BUMPERS, U.S. SENATOR FROM ARKANSAS

Senator BUMPERS. Mr. Chairman, you are very kind.

Bill, I appreciate your indulgence. I am chairing a hearing upstairs on another committee that Senator Johnston ought to be attending too. We need roller skates around here to function, and it is almost chaotic at this time of the year, but I have to get back up to that hearing.

But I just wanted to express my gratitude to all of the folks in my home State who are up here today to show the flag and their intense determination on a number of projects.

WEST MEMPHIS, AR, FLOOD CONTROL PROJECT

Mr. Chairman, you remember last year we discussed at length the West Memphis project. West Memphis is now in a position to come up with $4 million in cost sharing, which they could not do. This is an area, as you know, that floods about 100 low-income people's homes two or three times a year.

It is one of the gravest problems we have in Arkansas and I feel sure you are going to do the right this year on that project, Mr. Chairman.

Second, I wanted welcome especially our friends from the Red River Valley Association. I know that I am preaching to the saved when I say anything to Chairman Johnston about the Red River. I have been down to Alexandria, to the dedication of a dam. I spoke to the Red River Basin Association meeting in Shreveport the other night.

I have done everything to show the flag because I want Louisiana to continue with that project under the very able leadership of our chairman here, without whose services that would just still probably be a dream.

He has probably done more to shepherd the project through Congress than any other project he has ever worked on. So I will not belabor that. I have the details of my proposals in my statement which I will ask be inserted in the record, Mr. Chairman.

It is not an awful lot, but the Arkansas delegation wants to assist you, in keeping that project on track and remind you that we still have tremendous bank stabilization problems on the upper end of the Red River and I know you are going to help us with that again.

Third, as you know, you are a cosponsor of the Delta Commission bill. We have tremendous poverty in Arkansas, Mississippi, and Louisiana, and even Tennessee and Kentucky, on both sides of that river and I guess it seems to me that I have worked on the Helena slack water harbor since the day I came here.

That was one of the five things that I was interested in when I came to the Congress, and it is about the last one to be taken care of. But, Mr. Chairman, when you consider the immense poverty of that area, I want to tell you that it is simply amazing that Phillips County last week voted by a 76.6-percent majority for a 1 cent sales tax to come up with their cost share.

That is how determined they are and, I can tell you, they can ill afford it, but it just shows the kind of determination they have.

And there are two or three other projects I will not go into. We have people who will testify to it, Mr. Chairman.

MONTGOMERY POINT LOCK AND DAM

Finally, I want to say that we stand a chance of losing the entire McClellan-Kerr navigation system if we do not get another dam.

The last 10 miles of that system is unregulated and the Mississippi River has been going to unprecedented low levels in the last few years, levels that we never dreamed possible when we built that system, and, as a result of those low levels, barges are often backed up on the Mississippi River because they cannot get into the Arkansas River system.

So the Montgomery Point Lock and Dam is going to have to become a reality. It is going to cost quite a bit of money. We are asking for about $900,000 for a very initial part of that program, Mr. Chairman, but to lose a $1.2 billion system—that is what we cost it when we built it; it would probably cost $5 billion to build it today—but it would be unthinkable us not to build that last dam on there in the knowledge that we are going to continue to lose millions of dollars a year in barge traffic on the river if we do not build that dam.

Mr. Chairman, I will not belabor the other points. I know your time is precious, as is that of the people who are testifying here. I want to thank not just the people from Arkansas but the people from all over that area who have come here today to make your wishes known. We will do everything we can to accommodate them.

Bear in mind, we do not have the luxury of doing things the way we used to. We have a big budget deficit which you have probably heard about. We also have to deal with that.

Thank you, Mr. Chairman.

Senator JOHNSTON. Thank you, Senator Bumpers. I have taken due note of all of the projects you have talked about, but I am particularly pleased that you have the matching funds on West Memphis. We have heard year after year what is a really sad tale about West Memphis, which we could not do anything about it because the law required the matching funds and you did not have it.

Now it is a great challenge to us on the committee to try to scrounge up some money from somewhere. I do not know where it is going to come from, but I can tell you that after all these years of sympathizing with West Memphis, we have to find a way to do something about it.

I am glad you have kept up the fight to be sure that that happens.

Senator BUMPERS. Thank you very much, Mr. Chairman.

[The statement follows:]

STATEMENT OF SENATOR BUMPERS

Mr. Chairman, it is with pleasure that I take this opportunity to introduce and welcome my friends - members of the various river basin associations and commissions, and representatives of other projects from Arkansas - who are here to testify before the Subcommittee on Energy and Water Development on the FY91 appropriations. As always, I appreciate your allowing my constituents to testify on these projects of great importance for which they have dedicated much time and effort.

I would also like to take this time to thank the Chairman and the Subcommittee for the assistance you have provided to my state over the years. Unquestionably, many lives have been saved, millions of dollars worth of property has been protected, and hundreds have been employed because of the recognition by this subcommittee of the need for federal assistance in Arkansas. The people in my state are appreciative, and pledge to continue to justify your confidence that tax dollars are being well spent.

In this vein, I want to urge the continued strong support for the West Memphis, Arkansas and Vicinity Project. This project is one of my most immediate, pressing concerns because West Memphis has been ravaged by floods several times in recent memory, including another damaging flood just this past February.

I must note here that West Memphis officials have not just been sitting around waiting for the federal government to solve their problems. Although located in the economically disadvantaged delta area of east Arkansas (over 40% of the families in West Memphis live below the poverty line with a per capita income of $8,430 - 34% below the national average), West Memphis officials, under the leadership of mayor Keith Ingram who testified before this Subcommittee, scraped together nearly one million dollars to make necessary internal drainage improvements and repairs. And recently, because there was no other choice, the city informed the Corps that it would shoulder the burden of cost sharing $4 million of the $13.8 million of the West Memphis and Vicinity Project.

Let me go on record again that I will work vigorously to reform the burdensome cost sharing requirement, especially for poor, flood ravaged communities which desperately need flood protection. Even with the budget deficit we run, we certainly have the ability to provide protection to these communities without forcing them to risk fiscal ruin.

Of course, West Memphis can't wait for legislative reform, and the citizens are making a monumental commitment by agreeing to provide $4 million dollars for a project which will provide ten-year relief, much of it outside of the city limits. But in turn, the citizens expect the Corps to work on all cylinders on an optimum schedule so that the bulk of the relief will be in place by the end of calendar 1992. Under an optimum schedule, $1[illegible] 3.4 million will be needed to provide necessary funds for an early 1991 construction start, and for assurances of no lapse in funding between fiscal years. I strongly urge the Subcommittee to make $[illegible] 3.4 million available, and to include bill language requiring a construction start in early 1991.

As you know, I have strongly supported the slackwater harbor facilities at Helena and Yellow Bend, and I am pleased to again report that work on these two projects is on schedule. I would encourage the Corps to continue to act expeditiously on these projects, which are so important in our quest to reverse the economic stagnation in the Arkansas and Mississippi counties near these facilities along the Mississippi River.

It was so encouraging to learn late last week that 76.7% of the voters of Phillips County approved a one cent sales tax to help raise their $25 million share of the $65 million Helena Slackwater Harbor project cost. It was not lost upon the citizens of Phillips County that taxpayers around the country were putting up over $40 million to see this twenty year dream become a realty, and they voted to put their money where it counted.

To put this vote into perspective, although a one cent sales tax doesn't seem like much, this is being adopted in a small county which has a poverty rate of 40% and a per capita income of less than $7000, 45% below the national average. But the county is also experiencing an unemployment rate of between 13 and 14%, and the citizens know that this slackwater harbor is their one big chance to rescue this area of eastern Arkansas. I join with the citizens of Phillips and the surrounding counties in thanking the Subcommittee for its strong support, and urge continued funding in FY91 at the level recommended in the President's budget.

Both the Helena Slackwater Harbor and Yellow Bend projects will serve the navigation needs of a region that is the poorest in the country. The Corps supports these projects and should be commended for the zeal in which they have proceeded.

The Red River project continues to serve a vital function, and John Stroud, attorney for the Red River Commission will testify today on funding for several portions of this project. I strongly support these requests, and I urge the Committee to act favorably. One of the critical funding needs is $7.2 million for the Red River Emergency Bank Protection program. Bank cavings continue to be a tremendous threat to agriculture, navigation, highways, bridges, and flood control, and much valuable land has already been irreparably lost. If the necessary work is not continued, the cost of performing this work in the future will skyrocket. This money will allow continuance of necessary bank stabilization work, including work on the Brown Realignment, the last realignment in Arkansas, and $3.1 million for construction of the Finn Revetment.

I know the Subcommittee is well aware of the various Red River projects and has been very supportive. I again seek your support, including full funding for the Red River Basin Comprehensive Study; $50,000 for the Red River Waterway, Shreveport to Index, Arkansas account; $1,000,000 for the Red River Levees and bank Stabilization for levee reshaping; and $350,000 for preconstruction planning of the Red River Bank Stabilization, Index, Arkansas, to Denison Dam project.

Another project which has meant so much to Arkansas, both in terms of economic development and in preventing flood damage, is the McClellan-Kerr Arkansas River Navigation System. Of paramount importance to the users of the river is the issue of whether or not the United States is willing to lose its great investment in the project because of the unreliability of the last ten miles of the project, just before it reaches the Mississippi River.

The problem is that over the years increased efficiency of the Mississippi River has led to large volumes of water being carried at lower stages. This has caused a significant dip in the Mississippi River elevation at the confluence of the McClellan-Kerr system, far lower than design engineers ever thought possible.

As originally designed, the system was to operate at 110 feet above sea level, which was the lowest predicted level. However, drought, bank stabilization, and other alterations along the Mississippi has caused the surface level to steadily decline, with the expected stabilized level to be 95 feet above sea level, 15 feet below the designed confluence elevation.

Because the last ten miles of the McClellan-Kerr system is unregulated, the drop in the confluence level has led to greater unreliability of the system at the mouth, causing the loss of shipper confidence. In fact, it is estimated that unless corrected, the navigation system will no longer be functional by the year 2036.

The Corps is currently undergoing a review of the necessity of building the lock and dam at the entrance, known as the proposed Montgomery Point Lock and Dam, and I strongly urge that the Corps be provided $900,000 for right of way acquisition plus full funding to begin construction upon completion of design and environmental studies. I also strongly urge that bill language be included that will establish clearly for the Corps that construction of the lock and dam is the continuation of current authority.

On November 20, 1989, I, along with Senator Pryor, introduced legislation authorizing the Corps to excavate the Arkansas-White River canal to its full depth and to deposit the fill material resulting from this excavation at Morgan Bendway. This excavation is crucial if the Corps is to be able to operate Pool 2 to move sediments through the System and to greatly reduce annual dredging costs. Operational and maintenance funds for the full-depth excavation of the Arkansas-White Canal will be necessary, and I urge the Subcommittee to provide necessary funds contingent on the passage of the authorizing legislation. I also join the Basin groups in expressing my support for the Administration's budget request for construction, operation and maintenance of the McClellan-Kerr Arkansas River Navigation System.

Mr. Chairman, these are but a few of the concerns that I have involving projects affecting Arkansas and the region, and I will be in further contact with you and other members of the Committee to share other concerns. I believe that the prudent and reasoned development of our water resources is an important national purpose, and I appreciate the opportunity to share my thoughts on some of the projects which help to further this important purpose. I have always appreciated the consideration the Chairman has given me on my requests, and I look forward to working with you and other members of the Committee.

STATEMENT OF WILLIAM C. CHAPMAN, VICE CHAIRMAN, RED RIVER VALLEY ASSOCIATION FROM OKLAHOMA

Senator **Johnston**. Bill Chapman, please proceed.

Mr. **Chapman**. Yes, sir. Mr. Chairman and members of the committee, my name is Bill Chapman. I am the Oklahoma vice president for the Red River Valley Association.

I have been raised and make my home in the Red River Valley. I am a farmer/rancher as well as an attorney in that area and my family and I have several agriculture holdings in the Red River Valley, both in Oklahoma as well as in Texas.

Because of these interests and because I was raised in the valley, I am deeply interested and concerned about the conservation as well as the development and utilization of the natural resources in the valley.

The Oklahoma delegation is certainly supportive of the other delegations here today and their Red River projects; however, there are three items that I would particularly like to address my comments to this morning.

McGee Creek Lake, OK

The first one concerns McGee Creek Lake, which is in Atoka County in southeastern Oklahoma. This is a Bureau of Reclamation project. It is basically finished; however, the only things lacking in it would be some additional mineral acquisitions, apparently, and the completion of all the roads in the project. This would require, and we are asking you to request, $500,000 to be appropriated in fiscal year 1991 in order to completely finish that project and then it would be off the books entirely.

Index, AR, to Denison Dam Bank Stabilization

The second project I would like to cover concerns the bank stabilization from Index, AR, to Denison Dam. This affects not only the agricultural holdings along the river, which happens to be where one of my properties is located, but it also affects the canal work on down into Shreveport and Baloo area with the siltation that is carried when the banks cave.

So I think it is extremely important that we try to conserve the lands above the canal as well as bring the canal upriver.

So, we would like to join the Texas and Arkansas delegations in requesting $500,000 in fiscal year 1991 to continue preconstruction planning for bank stabilization from Index to Denison Dam.

Red River Chloride Control Project, Oklahoma and Texas

The third project that I would to address concerns the Red River chloride control project. As you know, there are natural sources that dump the equivalent of 98 train carloads of salt a day into Lake Texoma and consequently downriver into the Mississippi and the gulf.

There were nine established sources of salt, natural sources of salt, two of which have been attacked and successfully cured. That leaves eight more—one in Oklahoma, and that makes seven in Texas.

Senator **Johnston**. The area in Oklahoma is the biggest, is it not?

Mr. **Chapman**. Yes, sir; the one in Oklahoma is the largest, but there is only one in Oklahoma and my comments would be addressed to all of those actually.

We would like to recommend to the committee, of course, as this salt enters the water and carries itself, concentrates in Lake Texoma and then continues down river through your area, Senator.

Once we can cure these natural salt sources, I am told it will take 20 years for the water to completely cleanse out Lake Texoma and be completely usable not only for municipal water sources, sources and services, but in my area in northeast Texas, the water and in southern Oklahoma, the water cannot successfully be used at those points for irrigation purposes because it is too saline, and this would help all the way up and down the river if those sources were attacked.

Consequently, we are asking that the committee appropriate $2.5 million in fiscal year 1991 to permit the immediate initiation of construction or the low-flow dams and pump stations in areas 7 and 10, to continue the original design of the Crowell Bryan Lake and the Bryan detention and reservoir pump stations, and here is Oklahoma thing, the Salt Creek Lake in area 6 so that construction of these features can be initiated in fiscal year 1992.

We would like you to request the Corps of Engineers, Tulsa District, to complete the feature design memorandum—that where we are held up at this point—for area 6 in fiscal year 1991 so that construction can then begin as soon as appropriate.

Thank you, sir for your time.

Mr. **Duggan**. Our next witness is Mr. Bob Mansell, vice president of the association, representing the State of Texas.

STATEMENT OF BOB MANSELL, VICE PRESIDENT, RED RIVER VALLEY ASSOCIATION FROM TEXAS

Mr. **Mansell**. Thank you, Don. My name is Robert B. Mansell, and I am employed as an assistant to the general manager of the North Texas Municipal Water District and represent as vice president of Texas, the State of Texas, the Red River Valley Association.

Red River Waterway Project

I would first like to express support for the continued development of the Red River navigation project. The uncertainty surrounding the continued funding of the project appears to be destroying and delaying the initiative of private and public investment that are needed to support the project and make it work.

The uncertainty over funding needs to be eliminated so that the stream of benefits that this project is supposed to produce can come on line. Scaling back the project is simply wrong.

The project was envisioned to be a full navigation project, providing benefits to four States. Scaling the project back to Colfax seems to me to compare with stopping the Mississippi project at St. Louis. It just simply does not make sense.

We support full funding for the immediate construction of locks and dams 4 and 5. This should proceed without delay. We further request continued funding for the navigation above Shreveport which will produce long-term benefits in the States of Oklahoma, Arkansas, and Texas, and, more particularly, continued funding for the portion commonly referred to as Shreveport to Daingerfield, TX. We would request that $1.25 million be appropriated for the continued work on that navigation feature.

We have three other projects that I would like to address today. One is the support for the continued construction of the flood control project at Wichita Falls, TX, known as the Holliday and McGrath Creek project and request funding in the amount of $650,000 for that flood protection project, needed to protect lives and property in Wichita Falls, TX.

COOPER LAKE AND CHANNELS, TEXAS

The next project I would like to address is the Cooper Lake and channels in northeast Texas. My employer, along with the city of Irving and the Sulfa River Municipal Water District, are the local sponsors for the Cooper project.

We are moving forward to construct the intake structure and pipeline—the cost is some $60 million raised entirely with local funds—to be able to utilize the water supply at the Cooper project. The appropriation of $17.4 million will allow the Corps to continue with construction and meet a deliberate impoundment date of 1991.

We need to be sure that the Corps can complete the project in a timely manner so that the local sponsor's investment will not be lost and we will not have a water shortage. We plan on having the facilities in place to use the water at Cooper Lake and channels as soon as it becomes available.

RED RIVER CHLORIDE CONTROL PROJECT, OKLAHOMA AND TEXAS

The final project that I would like to address is the Red River chloride control program. Mr. Chapman addressed some of the specifics on the project. The project is a needed project. It has been evaluated; it has been looked at. It has been restudied time and time again. As each group has looked at the project, we find the project to be a workable, technically sound project.

The project has suffered numerous delays and it has become very frustrating for the people living in the area.

Senator JOHNSTON. Let me interrupt you at that point to say that I am a strong supporter of the chloride control project. The administration has not yet made up its mind. They are on-again, off-again, as you know, and the real question is timing.

It is going to be very difficult to start construction on this project in 1991 because of the current budget problems. I do not want to discourage you from continuing to work for it because we are going to do that one, I predict, and I will be in support of it.

Whether we can get started on it this year or not is very problematic, but stay in there pitching because it is a very, very important project or set of projects.

Mr. MANSELL. Thank you, Senator Johnston, because I think that is the most important thing. I do not think that I as a person on Texas—we have waited a long time for this project. One or two years is not going to make or break the project.

I think it has become a question of credibility. All of a sudden we are faced with, as you said, an on-again, off-again situation. When we are told water quality is no longer a priority of the administration, that is very frustrating to the people living in the area, because we believe water quality is a priority of this Government. And we would ask that the project, as funds come available, be implemented in a timely manner.

The project is a fairly small project that has identifiable segments which could be constructed fairly simply, in a fairly timely manner, and if the project could move forward with some hope of restarting construction and seeing an end to the project, I think it will be beneficial to all of the States involved.

Senator JOHNSTON. I tell you, we would have plenty of money if we did not try to defend the world--people like Japan—and did not try to give all of our money away. We ought to keep some of that at home and do some of these worthwhile projects.

Mr. MANSELL. Yes, sir; and we particularly appreciate the efforts of the committee because, as has been indicated earlier today, these projects really represent an investment in this country, and, more importantly, they make America a better place to live. We appreciate the efforts that you and other members of this committee undertake to find the necessary funding for these projects.

And we do thank you for that effort.

Senator JOHNSTON. Thank you, very much.

[The statement follows:]

STATEMENT OF ROBERT M. MANSELL

Mr. Chairman and Committee Members; my name is Robert B. Mansell. I am Vice-President, Texas, of the Red River Valley Association. I am employed as an Assistant to the General Manager of the North Texas Municipal Water District. My oral comments will be brief and are supported with a written statement. I would first wish to express support for the continued and timely funding of the Red River Navigation Project. The constant question of project funding and its effect on the construction schedule and therefore usability of the project, creates an uncertain economic environment which discourages private investment. The Red River Navigation Project is a good project which will provide positive benefits to this nation. Elimination of the uncertainty concerning construction scheduling will encourage the development of the private and public facilities necessary to facilitate the freight tonnage which will in turn benefit the nation and the area. Further, the Red River Valley Association is concerned, "nay" sayers will scale the project back and declare it complete at Shreveport, Louisiana. That simply is not correct. The project is to provide navigation benefits into the States of Texas, Arkansas, and Oklahoma. A reasonable time frame needs to be developed to allow for the continued construction of the project. Specifically, the Red River Valley Association requests that $1,250,000 be appropriated to continue certain project elements in the reach commonly referred to as Shreveport, Louisiana to Daingerfield, Texas. Hopefully, the Red River Navigation Project will not be the last navigation project embarked in these United States. We hope, however, the full project will be considered the best navigation project in the United States.

The RRVA requests support for continued funding of flood control work needed to protect lives and property in Wichita Falls, Texas. The project referred to as Lake Wichita Holliday Creek and McGrath Creek should receive continued funding at a level not less than $650,000.

The project that is most difficult to address today for the RRVA is a request to fund construction in the amount of $2,500,000 for the Red River Chloride Control Program. The project involves construction of chloride retention facilities in the States of Texas and Oklahoma. Benefits will accrue from the improved water quality of the Red River for people in four states. The delays and apparent retreat from implementation of the Red River Chloride Control Program by the administration is beginning to raise credibility questions among the citizens of the basin. The project has been properly authorized, construction has begun, and the construction in place is effective. Implementation of studies required by Section 1107 of Public Law No. 99-662, caused the RRVA to defer requests for funding because we believed the study effort was a legitimate exercise to determine the effectiveness of the project. The study is now complete and shows the project to be cost effective. We are now told, water quality is a low priority of the Administration and therefore, the President's Budget contains no funding for continued construction. We have also been told informally that the additional construction will be considered new construction. This is nonsense. The project was started in 1957. The authorization is correct and complete. The project needs to be completed. The project is cost effective and will benefit people living in four states. More importantly, the people living in the basin believe a promise was made by the Federal Government to clean up the natural pollution. Local agencies are working to control man made pollution and have implemented effective, quantifiable programs. Unfortunately, the more recent administrations have elected to abandon the project. The Red River Valley Association requests funding in the amount of $2,500,000 to initiate construction of the various features of the Red River Chlorine Control Program.

Further, the Red River Valley Association supports the appropriation of 17.4 million dollars for the Cooper Lake and Channels Project, Texas. My employer is a local sponsor of the project. After fourteen years of delay caused by somewhat questionable litigation the Corps is now moving forward to complete the project. Deliberate impoundment is scheduled for October of 1991 and the North Texas Municipal Water District, along with the City of Irving and Sulphur River Municipal Water District, are working to develop the pipeline, intake structure and pump station necessary to put the water conservation storage to immediate use. The local agencies will spend approximately 60 million dollars on non-federal facilities to transport this water. In addition, the local agencies will make a repayment to the U. S. Army Corps of Engineers for all the conservation storage in the project. Any delays in the completion of this project will create potential water shortages for the NTMWD and the other agencies. Testimony before this committee for more than twenty years has consistently stated Cooper Lake is wanted, and Cooper Lake will be used. With your continued assistance this project has become a reality.

I, and the members of the Red River Valley Association here today and those at home in the basin, appreciate the consideration this committee provides to the Red River Valley Association. More importantly, however, we recognize the projects you fund provide for an investment in America. It makes this country a better and safer place to live. We appreciate the time, energy and effort you spend on this task.

RED RIVER BASIN WATER RESOURCE PROJECTS

STATEMENT OF JOHN STROUD, MEMBER, BOARD OF DIRECTORS, RED RIVER VALLEY ASSOCIATION

Mr. DUGGAN. Mr. John Stroud from the State of Arkansas is the next speaker.

Mr. STROUD. Mr. Chairman, I know you appreciate the summaries that these presenters are giving you today rather than reading the written statements that we are filing in the record, and I will certainly do the same.

Senator Dale Bumpers was Governor of Arkansas when the Red River Commission was created and I appear here as attorney for that commission. He created that for us to work for bank stabilization on the Red River, and to work with the Corps and the Congress toward navigation.

We have heard your support of that and I want you to know we support you and we support the effort for simultaneous construction of locks 4 and 5, and we also are pleased to join with the other States for the continuation of this comprehensive study that covers hydropower, recreation, the various facets, including the extension of navigation, that is underway now.

We think that is vital and that study should continue for all of those purposes, and perhaps some of these dams upstream will have hydropower.

As Senator Bumpers stated, we still have the continuing need for bank stabilization. In fact, we began here, testifying to this committee 23 years ago before we had a Red River Commission. It was the levees and drainage boards that met together to send representatives and state our needs.

RED RIVER EMERGENCY BANK STABILIZATION PROJECT

You funded last year a very important revetment project called Slay Bend revetment. It was a contiguous realignment project. It is the last realignment project planned in Arkansas until navigation becomes a reality. It is needed for bank stabilization and to channelize that bank.

The two are contiguous, as I said; they needed to be built together. The funding was given us last year for Slay Bend. We ask you for the funding, $4.1 million, to build this last realignment, Brown Bend realignment. It is a vital project and, apparently, ideally they would have been built together.

Slay Bend has been deferred until summer to start, in hopes that they can be dovetailed in construction. So if we have one item to express to you, a particular need in Arkansas, it is that.

We also have a fin revetment project where the river is caving near a lake; that is $3.1 million and within your budget constraints and possibilities, we ask your consideration of that.

Three, smaller in number, but certainly not in importance—I am most pleased to join Mr. Chapman and Mr. Mansell—that you can think about and continue thoughts above Index, where there is no bank stabilization, reconstruction planning money, I have asked $350,000, Mr. Chapman, $500,000.

The amount is not as important as that you continue it. You did restart that study and we ask you to continue because this is a progression as we see it, from the Mississippi River to Denison Dam. It is slow, but we will keep coming, and we will get there.

We thank you for the substantial support you have given us and we certainly want to support you.

[The statement follows:]

STATEMENT OF JOHN F. STROUD, JR.

1.	Red River Emergency Bank Protection (Louisiana, Oklahoma, Arkansas and Texas); Funds requested for FY-91	**$7,200,000**
2.	Red River Basin Comprehensive Study (Arkansas, Louisiana, Oklahoma, and Texas) for continuation of planning; Funds requested for FY-91	**Full Corps Capability**
3.	Red River Waterway, Shreveport, Louisiana to Index, Arkansas - for continuation of preconstruction planning; Funds requested for FY-91	**$50,000**
4.	Red River Levees and Bank Stabilization Below Denison Dam (Texas, Arkansas and Louisiana) for reshaping levees; Funds requested for FY-91	**$1,000,000**
5.	Red River Bank Stabilization, Index, Arkansas, to Denison Dam, Texas (Arkansas, Oklahoma and Texas) for continuation of preconstruction planning; Funds requested for FY-91	**$350,000**
6.	Red River Waterway, Mississippi River to Shreveport, Louisiana - to initiate construction of Lock and Dams No. 4 and 5 for FY-91; Funds requested for FY-91	**$87,000,000**

GENERAL STATEMENT

As attorney for the Red River Commission of Arkansas, I wish to thank the members of this Committee for the opportunity to again express the concerns, needs and priorities of funding vitally needed from the Congress to continue the orderly development of the Red River Valley in Southwest Arkansas.

Twenty-three years ago, the bank caving in Southwest Arkansas accelerated to such an extent that the levee boards in that area banned together to form an association to present testimony to the Congress with a united voice. At that time, some of the upstream dams in Arkansas and Oklahoma had been completed which substantially alleviated the threat of floods, but which rapidly accelerated the bank caving due to the river remaining at one-half to two-thirds bank full for long periods of time. Since that time, upstream dams known as Millwood, Gillham, Dierks and DeQueen have been completed which have further reduced the threat of flooding, but which have accelerated the bank caving even more.

The State of Arkansas became concerned at this rapid irreparable loss of the most fertile farmland in Southwest Arkansas and recognized that bank stabilization could be a prelude to navigation into Southwest Arkansas. Therefore, seventeen years ago the Arkansas General Assembly created the Red River Commission upon the recommendation of Governor Dale Bumpers, now the Senior United States Senator for the State of Arkansas. The Commission was vested with the authority to furnish the local cooperation necessary for the construction and study of projects and to coordinate with the Corps of Engineers and the Congress to develop the water resources of the Red River in Arkansas. Southwest Arkansas is fortunate to have an abundance of water, rich soil and timber resources, but we vitally need the assistance of Congress to continue the bank stabilization projects for the preservation of these natural resources, and to continue the feasibility study of the extension of navigation from Shreveport, Louisiana, to Index, Arkansas, or to some other location in Southwest Arkansas.

RED RIVER EMERGENCY BANK PROTECTION (LOUISIANA, OKLAHOMA, ARKANSAS AND TEXAS)

It is imperative that this program continue to be funded to provide bank stabilization works in those portions of the river where the caving is most critical and where stabilization works were not included in earlier authorizations. At many of these locations the river threatens vital flood control facilities and endangers valuable public facilities.

The final realignment project in Arkansas to be known as Brown Bend Realignment should be initiated to stop the loss of valuable farmland and to stop the transfer of large quantities of sediment to the navigation system downstream. This reach of the river has been identified as having the most severe bank caving, and construction will begin this summer on Slay Bend Revetment which is contiguous to and just downstream from Brown Bend Realignment. According to the Corps of Engineers, these two projects should be constructed simultaneously. If the realignment project is not constructed soon, the bank caving could cause a misalignment with the revetment project and defeat much of its usefulness.

Funding of the Emergency Bank Protection Program will continue to allow these vital improvements to be accomplished in the areas most critical during the completion of planning still required before the comprehensive bank stabilization program can begin to be constructed.

Continued neglect of these caving banks will substantially worsen alignment of the river, making future realignment for navigation and stabilization more costly and difficult. Many caving banks still have an existing alignment that is usable for the navigation channel when it is authorized, and those banks should be preserved now.

We urge your inclusion of funding of the Emergency Bank Protection program in the amount of $4,100,000 for fiscal year 1991 to remain available until expended for construction of Brown Bend Realignment, and funding in the amount of $3,100,000 for fiscal year 1991 to remain available until expended for construction of Finn Revetment, with both of those contracts to be considered fully funded, but to be contracts to be initiated with funds appropriated in fiscal year 1991.

RED RIVER BASIN COMPREHENSIVE STUDY

This study was authorized and initiated in 1983 and began with a feasibility study by the Tulsa District. The Vicksburg District has now undertaken its reconnaissance and feasibility studies to include flood control, water supply development, generation of hydro-electric power, development and enhancement of recreational potentials and improvement of the river for navigation and port-site development. The study of hydro -electric power in conjunction with navigation on the Red River will undoubtedly prove of economical benefit. We, therefore, urge your approval of the full Corps capability for fiscal year 1991 to continue this comprehensive study, and to specifically include the continuation of a study of the feasibility of navigation from Shreveport, Louisiana, to Index, Arkansas, or to the point in Southwest Arkansas where navigation is currently feasible.

RED RIVER WATERWAY PROJECT, SHREVEPORT, LOUISIANA to INDEX, ARKANSAS

The Congress has funded preconstruction planning for this comprehensive bank stabilization program for several years for the reach of the river from Shreveport, Louisiana, upstream to the Arkansas-Texas boundary at Index, Arkansas. Although much needed stabilization work in certain areas has been performed with funding by the Emergency Bank Protection and Red River Levees and Bank Stabilization Below Denison Dam projects, only through the completion of preconstruction planning and then construction of this comprehensive bank stabilization program can the loss of valuable farmland be ended.

Tens of thousands of dollars have been contributed by the four counties bordering the Red River in Arkansas and by the towns and communities within those counties and over seven million dollars has been placed in the Red River Waterway Trust Fund by the Arkansas General Assembly to meet the non-federal costs required upon construction of this project. The Red River Commission is continuing its efforts to have the non-federal costs in hand when the preconstruction planning is completed so that construction can begin in an orderly manner without delay.

Not only will this project end the loss of some of the nation's most valuable resources but substantial benefits will accrue to the navigation project downstream which is presently under construction. The farmland is now washed downstream only to form worthless sand bars and place tremendous amounts of silt in the channel, both to the detriment of navigation. You appropriated $55,000 for fiscal year 1990 to continue the preconstruction planning, and we thank you for the support. We request an appropriation of $50,000 during fiscal year 1991 to continue preconstruction planning of this comprehensive bank stabilization program.

RED RIVER LEVEES AND BANK STABILIZATION BELOW DENISON DAM

Last year you appropriated $1,000,000 to fund the construction of a failed floodgate on McKinney Bayou Drainage Ditch in Miller County, Arkansas, and indicated that any funds remaining could be utilized to initiate the reshaping of levees. A few years ago the Corps of Engineers completed a study indicating that the levees along the main stem of the Red River in Arkansas should be reshaped to conform to the new flow line resulting from the study. Funding is needed to allow the Corps of Engineers to determine the deficiencies in the project levees in Arkansas that are a matter of grave concern to the Corps of Engineers and the levee districts, and to initiate detailed design for construction of remedial measures.

The reshaping of the levees will allow a more gentle slope on both sides of the levee to increase their integrity and substantially reduce maintenance costs. The Arkansas Red River Commission urges that Congress appropriate the sum of $1,000,000 to determine deficiencies, design remedial measures and begin construction of this project.

RED RIVER BANK STABILIZATION, INDEX, ARKANSAS to DENISON DAM

Bank caving is not only a serious problem between Shreveport, Louisiana, and Index, Arkansas, but it continues upstream between Index, Arkansas, and Denison Dam, Texas. The Congress saw fit to initiate preconstruction planning for a comprehensive bank stabilization project in that reach of the river during fiscal year 1984, but it was not funded again for continued study until last year when the Conference Report recommended and you approved $200,000. We urge the continuation of this preconstruction planning project recognizing that many years of planning are required before construction of this type project can begin. We hope that an orderly development up Red River can continue in the years ahead for the benefit of the people of all four states bordering the Red River. We, therefore, urge you to appropriate the sum of $350,000 to continue this preconstruction planning program during fiscal year 1991.

RED RIVER WATERWAY, MISSISSIPPI RIVER to SHREVEPORT, LOUISIANA

It is a pleasure for the Red River Commission of Arkansas to join with the State of Louisiana to seek funding for the prompt construction and completion of Locks and Dams No. 4 and No. 5. We are well aware of the economic impact that will occur when the navigable channel reaches the port of Shreveport, Louisiana. We, therefore, urge your approval of $87,000,000 for fiscal year 1991 for this project.

Senator JOHNSTON. Thank you very much, John, good to have you here.

Mr. DUGGAN. Mr. Don Sonnier will speak for the State of Louisiana.

Senator JOHNSTON. How does a man from north Louisiana get a name like Sonnier?

Mr. DUGGAN. He is a raging cajun, displaced, and had the good judgment to marry a north Louisiana girl. [Laughter.]

STATEMENT OF DONALD SONNIER, COMMISSIONER, RED RIVER WATERWAY COMMISSION

Mr. SONNIER. Mr. Chairman and members of your committee, it is always a pleasure for us to visit with you and testify and give our thoughts and ideas on the project that we are so proud of in the Arkansas, Louisiana, and Texas area.

On behalf of the Red River Waterway Commission, we just want to reassure you that our part of the job to get navigation to the Shreveport/Bossier metropolitan area by 1994 is underway. We intend to continue with that effort.

Let me highlight just a few of the things that we submitted in our actual brief. We know that we have lock and dams 1 and 2 completed and we are in operation at the Port of Alexandria; lock and dam 3 is over 70 percent complete.

We have been foresighted enough to go ahead and acquire the rights-of-way for the lands at lock and dams 4 and 5, which I think is somewhat indicative of our commitment to the project. We realize if 4 and 5 is continued that that will add a tremendous economic boost to our very depressed area.

And another unique thing that we cannot forget about this particular project is that it is on a cost-sharing basis under rules set up by the Federal Government, and the people of Louisiana were foresighted enough to see that they needed to tax themselves so that they could participate with the Federal Government in the completion of a project which they thought was beneficial to their State.

Of course, we are using those funds right now to acquire rights-of-way. We are developing ports—the Port of Alexandria, the Port of Natchitoches, the Bossier Port—and we are developing recreational sites. To some extent, we are developing them in areas that we do not yet have a cooperative agreement.

Senator JOHNSTON. When, by the way, are they going to start work on that Alexandria entertainment site, what do you call it?

Mr. SONNIER. Alexandria Front?

Senator JOHNSTON. That's right.

Mr. SONNIER. That is approaching the contractual point.

Senator JOHNSTON. Good.

Mr. SONNIER. I think by some of these things we have proved that the Louisianans have proven their commitment to the project, and we only ask that, hopefully, the Government will also see that we need their commitment to continue our project.

We, at this time, would like to request funding at the $87 million level to efficiently complete our project, which, as you mentioned earlier, is over two-thirds complete.

Along with this, we want to lend our support to the efforts of the Red River Valley Association and the projects that are in the Red River basin, because, as you have seen today, it has been a collective effort amongst all of us to try to attain those things that will benefit our area..

On behalf of the commission and our fellow supporters, we appreciate your efforts, Senator Johnston, and your concern for our project which we certainly feel will not only benefit the four-State area, but also the entire Nation.

Thank you, sir.

Senator JOHNSTON. Thank you very much.

Mr. DUGGAN. Senator, we again thank you for the time afforded us here today. I would like to also say that we continuously receive calls from people who are already located in our vicinity and those interested in moving there about when they can expect navigation on the Red, and it would be certainly helpful to be able to give these people some dates..

Senator JOHNSTON. You tell them 1994.

Mr. DUGGAN. Thank you much.

Senator JOHNSTON. Gentlemen, thank you very much. We appreciate your testimony.

[The statement follows:]

STATEMENT OF DONALD SONNIER

Honorable Ladies and Gentlemen of the Committee, as a senior member of the Louisiana Red River Waterway Commission, I would like to thank you for the privilege of addressing this Committee with the opportunity to share the viewpoints and comments of the Commission.

Let me remind the members of the Committee of the vast economic value and growth potential of the Red River Waterway Project to the citizens of Louisiana and its neighboring states, as well. As it has from the inception of the project, the Red River Waterway Commission is firmly dedicated to accomplishing its tasks in achieving the ultimate goal of navigation on the Red River from the Mississippi River to Shreveport, Louisiana by 1994. Locks and Dams 1 and 2 are complete and operational with navigation to Alexandria. Lock and Dam 3 is over 71% complete and we have in good faith acquired the property for Locks and Dams 4 and 5. The project, while targeting first at navigation, as well as industrial development and improved recreational use of the river has also served to enhance the environment, leaving it in better condition than that in which it was found. The dedication to the project and the enthusiasm of the people of Louisiana is evident through their individual support in obtaining local funding for the various port industrial park sites, and recreational areas on the river.

Lands have been acquired, utility commitments have been secured, and potential industrial park site users are standing by awaiting completion of the navigation project. The Red River Waterway Commission actively supports and deals with the public on a daily basis in the development of these ports, industrial park sites, and recreational areas. This project, in its construction stage, has brought many job opportunities to the people of Louisiana who might otherwise have had to leave their homes to seek employment elsewhere. But, most importantly, the completion of the project will result in an expansion of jobs for Louisianians through the development of these various ports, industrial park sites, and recreational areas. Louisiana wants to continue to work toward the completion of this project. However, in order to do so, the funding must be available. We fervently urge you, the Committee, to honor our request for the $87,000,000.00 funding level for the Red River Waterway Navigation Project. We remain in support of the Administration and the Congress in its ongoing endeavors to reduce the national debt. Moreover, at a time when cost efficiency is so highly scrutinized by the people of this nation, to abandon or to even severely delay such a large project at a point where it is nearing the 60% completion level would result in a gross injustice to the integrity of the accomplishments thus far. Louisiana wants to finish the job it has set out to do and attain its goal of water borne commerce on the Red River. On behalf of the Red River Waterway Commission and our fellow Louisianians dedicated to the completion of this project, I urge you to continue to afford the Red River Waterway Navigation Project your support. Do not allow our past achievements to have been in vain and ultimately come to be considered a gross waste of the funds thus far expended.

We would also ask that you acknowledge our continued support of the Red River Valley Association and their basin wide request on behalf of our neighboring states bordering the Red River. Our projects serve to enhance the economic growth of our neighbors just as their projects contribute to Louisiana's economic growth and stability. Through the consistent contributory actions of the Red River Valley Association, coordinating these related projects on the tributaries of the Red River, all of these projects are becoming a reality serving to better the economy and environment of the people of the "Red".

In conclusion, on behalf of the Red River Waterway Commission, and our fellow supporters, we would like to express our sincere appreciation of all of the support this Committee has afforded this project from the beginning, and it is our sincere hope that you will continue to recognize this need. Thank you once again, for the privilege and the opportunity of addressing this Committee with the views of the Commission.

PEARL RIVER NAVIGATION PROJECT

STATEMENT OF M.E. "TOYE" TAYLOR, MAYOR, CITY OF BOGALUSA, LA

Senator JOHNSTON. Next, we are happy to welcome a very outstanding mayor from Bogalusa, LA, Toye Taylor.

Glad to have you, Toye.

Mr. TAYLOR. Thank you, Mr. Chairman. For the record, I am Mayor Toye Taylor of Bogalusa, LA. I am here today to testify on the Pearl River navigation project.

Maintenance dredging by the Corps of Engineers on the Pearl River navigation project is necessary to render the waterway navigable, in accordance with the original purpose of the project, and to provide those benefits necessary, the project was first established.

There is even more reason today to provide the support necessary to reestablish and maintain the commercial utility of the project. In the past year there has been a demonstrated, significant interest in the use of the waterway by several industrial shippers, as well as the actual present use, when available, by Gaylord Container Corp., the area's largest employer, for shipping coal for boiler use in its Bogalusa mill.

In view of the area's high unemployment, the potential impact of a commercially viable waterway becomes even more important. At present, although the Corps of Engineers began dredging in 1988 with the anticipation that the waterway could be reopened to commercial traffic, the Corps now has information indicating that the scope of the dredging will be even greater than originally anticipated and additional funds will be necessary.

The funds presently available will need to be supplemented in the approximate amount of $600,000 in order for the Corps to complete the dredging. The total cost to complete the dredging for 1991 is presently estimated at $1.6 million, and $1 million has been appropriated.

The establishment of water transportation to Washington Parish and its largest city, Bogalusa, can be justified. Bogalusa has no direct rail through service, nor is it located near any interstate highways. Because of its isolation, a viable waterway could contribute significantly to its future economic potential.

Bogalusa is an area of high unemployment and the area does have able employees who have a demonstrated work ethic. The presence of Sullivan Regional Vo-Tech is an attraction to industry because it will set up training programs to train its new employees.

Most of Gaylord Container's Corp. expansion, which will make it one of the top five papermills in the world, will necessitate substantial increases in both raw materials and finished products, many of which are most conveniently shipped by water: roundwood, chips, processed chemicals, bulk waste paper, finished products, and boiler fuel in the form of coal.

Numerous bulk shippers have indicated an interest in delivering products into the Bogalusa port if they can be assured of a 12-month navigability. After partial navigability was established, commercial navigation began immediately for the transport of both coal and gravel.

In closing, the navigation project has received all the necessary environmental approvals and we appreciate your support as in the past and we appreciate your consideration now.

Thank you, Mr. Senator.

[The statement follows:]

STATEMENT OF M.E. "TOYE" TAYLOR

Summary

Request for appropriation in the approximate amount of $600,000.00 to be allocated for dredging by the Corps of Engineers on the Pearl River Navigational Canal and Pearl River.

The Corps of Engineers had begun dredging in 1988/1989. The projected estimated cost of completing the dredging in 1990, in the approximate amount of $1,000,000.00, was revised by Corps in February when it realized that the amount of material that needed to be removed from the River was greater than it had initially estimated. The additional cost to complete the dredging based on present estimates is approximately $600,000.00.

Justification

1. Bogalusa has no direct through rail service.

2. It is not on any Interstate highways.

3. Because of its isolation, a viable waterway would contribute significantly to its future economic potential.

4. Bogalusa is in an area of high unemployment.

5. The area does have a number of able employees who have a demonstrated work ethic.

6. The presence of the Sullivan Regional Vo-Tech is an attraction to industry because it will set up training programs for new employees.

7. Most of Gaylord Container's Corporation expansion will necessitate substantial increases in both raw materials and finished products, many of those are most conveniently shipped by water:

Roundwood
Chips
Bulk waste paper

Process chemicals
Finished products
Boiler fuel - coal

8. Numerous other bulk shippers have indicated an interest in delivering products into the Bogalusa port if they can be assured of a 12-month navigability.

9. After partial navigability was established, commercial navigation began immediately for the transport of both coal and gravel.

11. The navigation project has received all necessary environmental approvals.

TEXT

Maintenance dredging by the Corps of Engineers on the Pearl River Navigation Project is necessary to render the waterway navigable in accordance with the original purpose of the Project and to provide those benefits envisioned when the Project was first authorized.

There is even more reason today to provide the support necessary to reestablish and to maintain the commercial utility of the Project. In the past year there has been demonstrated significant interest in use of the waterway by several industrial shippers, as well as the actual present use, when available, by Gaylord, the area's largest employer, for shipping coal for boiler fuel to its Bogalusa Mill. In view of the area's high unemployment, the potential impact of a commercially viable waterway becomes even more important.

At present, although the Corps of Engineers began dredging operations in 1988 with the anticipation that the waterway could thereby be reopened to commercial traffic, the Corps now has information that the scope of the dredging required is greater than originally anticipated, and additional funds will be necessary. The funds presently available will have to be supplemented in an approximate amount of $600,000.00 in order for the Corps to complete the dredging. Total cost to complete the dredging by 1991 is presently estimated to be $1,600,000.00. $1,000,000.00 has been appropriated.

The establishment of water transportation to Washington Parish and its largest city, Bogalusa, as well as the smaller municipalities near the waterway in both Washington and St. Tammany Parishes, is of particular importance. The city of Bogalusa no longer has any direct through rail service, thereby significantly impacting rail transportation as a viable means for moving bulk commodities into and out of the area on a commercially efficient basis. In like manner, this area is isolated from the interstate highway system. All road service is secondary roads which renders truck traffic dangerous and inefficient. The presence of a viable waterway would enable this entire area to become more competitive as an industrial area.

The City of Bogalusa and Washington Parish are in areas of high unemployment. Unemployment has averaged approximately 12.5% during recent years. Surveys of the labor market indicate that there are a number of able workers with a demonstrated work ethic. This area would succeed in attracting additional industry because of the completion of this Project. Many of these people presently commute over two hundred miles per day in order to make a living. The Sullivan Regional Vocational Technical Institute is very attractive to potential industrial prospects as programs are available for training and retraining potential new employees. The single most often repeated impediment to further industrial expansion here is lack of efficient economical bulk transportation.

As indicated above, Gaylord Container Corporation, the area's largest industry, has used, when available, the waterway for the transport of coal as boiler fuel. If the waterway is completed and maintained on a twelve month basis, it is anticipated that approximately 57,760 tons of coal would move up the waterway each year. Additionally, approximately 31,640 barrels of fuel oil would in all probability come into the area by barge.

The Gaylord Mill is currently under an expansion program. When complete, production will be approximately 952,000 tons per year, an increase of 182,015 tons per annum. This will result in an increased demand for raw materials. Included in the modernization will be a new wastepaper system that will utilize substantial quantities of wastepaper (old corrugated containers, box plant clippings, etc.). The Bogalusa Mill presently uses 111,500 tons of wastepaper per year. With completion of the expansion, this tonnage will increase to 154,425 tons per year. The metropolitan areas proximate to Chicago, St. Louis, Memphis, Tampa and Houston will all be sources of substantial quantities of wastepaper. The most efficient way to move this wastepaper into the Bogalusa Mill is by barge. Demand for wood used in the production of paper will also increase substantially. It is anticipated that additional demand for hardwood will equal 377,200 tons per year, and additional demand for pine will be over 125,000 tons per year. Studies are presently underway to identify areas of wood production that can move this wood into the Bogalusa area by barge as opposed to land transportation. As the demand for pulpwood increases, all producers are going to be required to move raw materials greater distances in order to find them at competitive prices. Total wood consumption on an annual basis will equal 2,087,800 tons of pine and 385,000 tons of hardwood. The availability of water transportation will do much to strengthen the future of the area's primary industry. It is also anticipated that certain of the basic pulping chemicals could move into the area more economically by barge. Increased use of caustic soda will be in the range of 24,100 tons per year, 2700 tons of lime per year and 600 tons of sulphur per year.

Potential for use of the waterway for the shipment of finished products is also under consideration. Gaylord currently exports finished product. Its 1990 plan indicates the shipment of 98,880 tons. This is presently trucked to ports in Mobile and New Orleans, loaded into containers and then shipped out by container vessels. Studies are presently being done on containerizing the products at the mill. They could then be shipped out by barge and off loaded onto the oceangoing vessels. When the expansion program is complete, it is anticipated that annual export would be in the range of 117,000 tons per year. Production of tall oil and turpentine will also increase. It is anticipated that approximately 20,300 tons of tall oil will be moved out each year and 358,900 gallons of turpentine. These products also readily lend themselves to barge movement.

Bulk shippers other than Gaylord Container Corporation have indicated an interest in delivering products into the Bogalusa port if those shippers could be assured of year round navigability on the waterway. Included in the commodities reflective of such interest are agricultural chemicals, lime and fertilizer, sand and gravel, export of wood and wood chips and containerized freight forwarding. Since partial navigability was established following the dredging in 1988 and 1989, one sand and gravel industry did locate on the canal and had begun to ship products. However, when navigation was interrupted, that company lost its contracts and is unable to resecure the contracts until navigability is insured on a twelve month basis.

By public hearing in Bogalusa, Louisiana, on February 3, 1989, a large turnout of potential users of the River and the Canal testified. Several representatives of the Corps were also present. The following industries (either by representative at the hearing or by subsequent letter) expressed support of the project and interest in utilization of the port:

1. Dravo Basic Materials CO., Inc.,
   Birmingham, Alabama

2. S & M Fertilizer & Seed Co., Inc.,
   Franklinton, Louisiana
3. AgriBasics Fertilizer Co., Inc.,
   Richardson, Texas (ConAgra)
4. Agrico Chemical Co.,
   New Orleans, Louisiana (Freeport-McMoran)
5. Cargill-Fertilizer Division,
   Baton Rouge, Louisiana
6. Gaylord Container Corp.,
   Bogalusa, Louisiana
7. Gaylord Chemical Corp.,
   Bogalusa, Louisiana
8. Texas Industries/Louisiana Industries
9. Pearl River Navigation Co.
10. Pearl River Aggregates
11. Louisiana Scrap Metal Co.
12. Hydro International
13. Standard Gravel
14. Coastal Sand & Gravel
15. ITO, New Orleans, Louisiana
16. Cavenham Forest Industries Inc.

The City of Bogalusa presently plans to build a public port. It has made arrangements to acquire a portion of the O. A. Green property wherein the port will be located which will eliminate the most expensive part of the dredging cost. It is estimated that dredging costs from Lake Borgne to the O. A. Green site is approximately one-half of the total cost for dredging the waterway all the way to Richardson's Landing. For that reason, the City agreed to relocate the municipal port on the O. A. Green site in order to save the substantial dollars that would have otherwise been required to dredge to the City property at Richardson's Landing. There is every reason to believe that the port will be equally effective and economically viable at the O. A. Green site as at Richardson's Landing.

This project will have no negative impact on the environment. It has been thoroughly reviewed by Federal and State agencies and it has been demonstrated that this commercial utilization of the waterway will not impact on the area. Recreational and other use of the waterway can continue without interference.

Senator JOHNSTON. Thank you very much, Mayor Taylor. As I told you when I was down in Bogalusa, this is a vital project which has a tremendous benefit-cost ratio. It ought to be completed; we will complete it. We will get you your $600,000 this year.

Now as far as the refurbishing of the lock, further design work has to be done on that so that will have to wait, but we will get your $600,000 this year.

Mr. TAYLOR. Thank you for your support.

Senator JOHNSTON. Thank you, Mayor.

The committee will take a short recess before calling the next witness.

[A brief recess was taken.]

Senator JOHNSTON. Next we have the Lower Mississippi Valley Flood Control Association with George Grugett, executive vice president who will bring his distinguished panel with him.

LOWER MISSISSIPPI RIVER VALLEY FLOOD CONTROL PROJECTS

STATEMENT OF GEORGE GRUGETT, EXECUTIVE VICE PRESIDENT, LOWER MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION.

Mr. GRUGETT. Mr. Chairman, thank you very much. My name is George Grugett and I am the executive vice president of the Lower Mississippi Valley Flood Control Association. Our office, as it has been since 1922, is in Memphis, TN.

We have been testifying before these committees for 55 years now. I will not ask our members to stand up, but I can assure you that——

Senator JOHNSTON. You all look very good, I am telling you.

Mr. GRUGETT [continuing]. Ninety-nine percent of them that are left in the room are our members. One thing I would like to say, sir, I was privileged to be selected for my position some 10 years ago, and at that time, Mr. Chairman, you were president of our association and I want to express my appreciation to you and your staff for getting me off on the proper start.

The Lower Mississippi Valley Flood Control Association has served the members, the people of the valley, continuously for 55 years. I do not need to tell the chairman of the subcommittee of the good that has been accomplished by the project, the Mississippi River and tributaries.

Today it is my privilege and pleasure to introduce our speakers and they are all from the association's executive committee.

First will be Mr. Mark Simmons from Belzoni, MS, followed by Mr. Ron Besson from the west bank of Marrero, LA, and then Mr. Curtis Patterson from Baton Rouge, LA, and last, Mr. David Solomon from Helena, AR.

Mr. Chairman, Mr. Simmons.

STATEMENT OF T.M. SIMMONS, CHAIRMAN, EXECUTIVE COMMITTEE, LOWER MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION

Mr. SIMMONS. Mr. Chairman, the first thing I would like to say is we appreciate the opportunity to appear in this beautiful, spacious hearing room. We are used to appearing downstairs, I believe, in a much smaller room and our people are standing on the side of the wall and everywhere, and so we still have the same support we have always had, but we are in a much larger room and we appreciate it.

Senator JOHNSTON. Thanks; I am glad you like it. I think this is a better room, and by the way, there are plenty of chairs for those who are standing in the back if you do want to have a seat.

Mr. SIMMONS. Mr. Chairman, distinguished members of the committee, my name is Mark Simmons and I the president of the Yazoo-Mississippi Delta Levee District of Clarksdale, MS, and I am also chairman of the executive committee of the Lower Mississippi Valley Flood Control Association, and I appear here as a spokesman for that association, to present their views on the fiscal year 1991 budget for the Mississippi River and tributaries project.

I will present several items of general interest from all of our membership and then call on others of our group to testify concerning specific items.

Mr. Chairman, I assure you, we will be as brief as possible. I have submitted a more detailed statement that I request be made a part of the record.

Most of you are familiar with the objectives of our association, so I will not repeat them. The 10 individuals who are elected by their neighbors to serve on the executive committee that manages and directs the policy established by the association have closely examined the budget request for the Mississippi River and tributaries project for fiscal year 1991, and there are several items of concern that we desire to discuss with this committee.

A principal objective of this association is the support and sponsorship of a comprehensive, multistate project that was established by law to solve a national problem. We know all too well that we must complete the entire project before the people in the valley can be safe from the devastating flood waters coming down from over 40 percent of this Nation.

We come before you today in support of the budget, fully cognizant of the Federal deficit and the necessity to slow the growth of Federal spending.

For these reasons, we are very hesitant to ask this committee for increases in the budget amount, but we see several problems and we believe that it is imperative we discuss these with you.

During our examination of this year's budget, it was immediately obvious that no funding was indicated for five very vital flood control projects that were funded in last year's budget.

Those five flood control projects have been supported and testified to for several years by this association. The five projects I refer to are: Harris Fork Creek in Kentucky and Tennessee; four projects in Arkansas, West Memphis; Eight Mile Creek near Paragrould, AR; the Cache River basin, and the L'Anguille River basin.

This committee and the entire Congress have also strongly supported these five projects in the past by appropriating over $20 million for the planning and construction of these much needed projects.

There are other omissions from this budget, including the Mississippi and Louisiana estuarine area project, Mud Lake pumping station in Tennessee, West Kentucky tributaries, St. Johns Bayou and New Madrid Floodway in Missouri, Horn Lake Creek and the Yazoo backwater pumping plant in Mississippi and others.

All of these projects have been supported by this association and by the Congress. These delays in the planning and construction of these flood control projects are contrary to our belief that the best economic approach is to complete the Mississippi River and tributaries project as soon as possible.

The reason for this is to avoid the increased costs that are likely to occur, but also to protect the tremendous amount of Federal and local funds already invested in the project.

Most important of all are the real benefits of this project, or the reduction in human suffering, the improved health and well-being of the citizens of the lower valley, and the economic development of agriculture and industry in the States we represent and to the Nation as a whole.

All of the approved methods known to us for making economic and environmental project analysis falls far short of fully evaluating these human needs.

LOCAL COST-SHARING AND ABILITY-TO-PAY ISSUE

When we examined the Corps of Engineers documents, we note that almost every reason given for not requesting funding in the budget or stating a capability for the omitted projects that I have listed is lack of coöperation.

Mr. Chairman and members of this committee, that is most disturbing. This large turnout and the capacity crowd from the lower Mississippi Valley that has appeared before the Congress for over 60 years make the term, "lack of local cooperation" without merit. A more correct and proper phrase would be inability to pay under present cost-sharing criteria.

Unfortunately, the executive branch is still operating under the false assumption that the poorest communities and States can afford at least 25 percent of the cost of these projects.

Mr. Chairman, we are here today representing those poorest communities and States. We believe that the fallacy of that assumption is supported by the fact that, almost 3.5 years after the passage of the Water Resource Development Act of 1986, not one single local cooperation agreement for a flood control project in the Mississippi and tributaries area has been signed.

However, there remains a great need for flood control work in the lower Mississippi Valley. This association has accepted the concept of cost-sharing and the local people have, for many, many years, met their requirement and done their share in providing required lands, easements, and rights-of-way.

We cannot agree with the executive branch criteria for the ability to pay and we do not believe it meets the full intent of the Congress.

YAZOO BASIN PROJECT REFORMULATION STUDY

Now, I would like to discuss the reformulation study of the Yazoo basin project in my home State of Mississippi. This reformulation study is budgeted in fiscal year 1991 for $5.9 million. We have been informed by the Corps of Engineers that this study will require several years and cost several millions to complete.

Mr. Chairman and members of this committee, the Lower Mississippi Valley Flood Control Association has for all of these years subscribed to the belief that any major decision, be it water resources or whatever, should be made in the open forum of the Congress.

This arrangement has served this country well over the years and we do not believe that it should change now or ever.

We are not aware that any Members of the Congress has requested that the Yazoo basin project be reformulated. The Yazoo basin project was congressionally authorized in 1936 and has been amended and modified by the Congress 10 times since 1936.

If the Congress considers that the project needs to be reformulated, amended, or modified, we would like to go on record as supporting such an effort, but would request the following considerations.

First, any delay to the project will deny the residents of the Yazoo basin the benefits that will certainly accrue upon completion of the authorized work, at the same time they are being subjected to the health endangering and the economically devastating flooding that they are even now experiencing. Therefore, we request that the study be completed as rapidly as possible.

Second, we note that the Corps of Engineers in Vicksburg has been directed to reformulate the unconstructed features of the Yazoo basin project to evaluate alternate plans for the following: one, greater levels of flood protection for urban areas; two, reduced levels of agricultural intensification; and three, reduced adverse impacts on the environment.

This association is in full agreement to provide greater levels of flood protection for urban areas and would only request that the study not be restrictive as to the size and definition of urban areas and include the small agricultural communities such as Tutwiler, MS, and others that experience flood problems each year.

We cannot agree that this study should consider reduced levels of agriculture intensification. We are all aware that agriculture has long been the mainstay of the delta economy and there is no question that agriculture in the lower Mississippi and Yazoo basin deltas have made an important contribution to the economic well-being of the region and the Nation.

Without agricultural commodities for export, our trade deficit would even be higher. The greatest asset we have in the lower Mississippi Valley is our rich, fertile soil. This asset is of very little value unless we can control the flood waters coming from as far away as New York in the east and Montana in the west.

To in any way reduce the flood protection authorized in the Yazoo basin project would be counterproductive and indicate a lack of foresight. We do not believe that the study should examine reducing agricultural flood protection. It should instead search for more efficient methods of protecting our greatest asset that would be both economically sound and environmentally acceptable.

We agree completely that the study should examine ways to reduce any adverse impacts on the environment. We also believe that the study should not be limited here but should examine, identify, and recommend practical and sensible ways to enhance the environment.

We subscribe to the belief that one way to enhance the environment is to ensure that all people are able to live in a safe and wholesome atmosphere every day of their lives.

CHANNEL IMPROVEMENT REQUEST

We note with interest the much larger than usual budget amounts of the channel improvement project. In fact, the $109,875,000 in this budget is by far the largest amount for this work that we can recall seeing.

Today, we are supporting this budget amount for the channel improvement programs on the Mississippi River. Within this item are included the funds for the revetment and dike programs and navigation improvements.

In large measure, this item can be a key to better economic conditions in the valley. The revetment program, by arresting the river's meandering, will prevent the river from encroaching on the levees, thereby largely eliminating the annual sacrifice of large acreages of fertile land to river erosion.

The dike program restricts the channel width so as to produce a single efficient channel for navigation. Together, this program is intended to assure a stable and reliable 12-foot channel from Baton Rouge, LA, to Cairo, IL. That was authorized on December 22, 1944.

We hope that this increase in channel improvement funds will hasten the completion of this 12-foot channel in order that the lower Mississippi Valley and the Nation can realize the economic benefits that the deeper channel will bring.

MISSISSIPPI RIVER LEVEES

I would next like to discuss the Mississippi River levees items, for which the budget has allowed $20.3 million. These levees are our principal line of defense, stretching intermittently along both banks of nearly 1,000 miles of river and protecting some 28,000 square miles of the alluvial valley.

Our principal concerns now are the raising of the grade of the levees in the southern part of the valley, in addition to the integrity of all levees.

Seepage both through and under the levees is a problem in times of high water and could lead to disaster in the form of foundation or structural failure in times of great floods.

We believe that progress on this program and the raising of the levees where required is absolutely essential. This work must be pursued with utmost haste and we support the budget amount of $20,300,000.

ATCHAFALAYA BASIN, LA

Another item in the budget that always deserves special consideration is the Atchafalaya basin in Louisiana. In times of flooding, about one-half of the flow through the Mississippi River can be diverted through the Atchafalaya.

This must be done for the protection of the vital areas on the lower river, including the cities of Baton Rouge and New Orleans. Since the Corps of Engineers has expressed no additional capability for this item, we support and request the amount of $32 million as shown in the President's budget.

We are well aware of the ever-increasing demand on your time and the many complex and controversial problems that now confronts the Congress. With that in mind, I will not discuss other items in the budget, but they will be covered either by other speakers or by written statements submitted for the record.

WETLAND DEFINITION

I do want to inform this committee that our association sees big problems with the wetlands issue, particularly with the current memorandum of agreement between the Corps of Engineers and the Environmental Protection Agency.

We believe that the nonlegislative definition of wetlands that ignores the needs of our rural communities also ignores congressional intent. If it was the intent of the executive department to shut down our farmers with these two documents, then they have done an excellent job.

In closing, I would like to emphasize our belief that the public works projects with proven merit, such as the Mississippi River and tributaries project, should not be viewed as a drain on the Federal budget but as investments that will reward the taxpayers of this country with a very generous return.

The economics related to water transportation and the importance of flood protection for our agricultural and industrial interests in the lower valley are of extreme importance.

We wish to express to the members of the committee our appreciation for this opportunity to appear before you and for the sympathetic consideration you have given our requests in the past, and I thank you, Mr. Chairman.

STATEMENT OF HON. JOHN BREAUX, U.S. SENATOR FROM LOUISIANA

Senator JOHNSTON. Thank you very much, Mr. Simmons.

I am happy to recognize my friend and colleague, the Senator from Louisiana, John Breaux.

John, would you like to make some comments?.

Senator BREAUX. Thank you very much, Mr. Chairman. I thank the panel that is appearing before the chairman also this morning to present testimony, as well as all of the individuals who have come up to Washington to make your presentations before the Subcommittee on Appropriations for Energy and Water Development.

I want you to know as a freshman Member of the Senate, when I come into a big room like this and see all of these people who have come up to present testimony, then I look up to the Chair and I see my senior Senator, my colleague from Louisiana, sitting here running the show, I want you to know, it certainly makes my job a lot easier and makes me feel a lot better knowing that Bennett Johnston is the chairman of this subcommittee.

That means an awful lot to a freshman Senator, to have his colleague running the show, and it means a lot to all of you I think also, knowing that the chairman knows the problems and concerns and is going to work with all of you to do the best job we can.

The second point that I would make, Mr. Chairman, is the fact that all of the individuals here are coming to the Congress to ask for funds for much needed projects, to be allocated to their respective States, and it is always a difficult battle because we always have a limited amount of money and many more legitimate requests that we have money for.

But I would say, Mr. Chairman, one thing that is sort of disturbing to me at this point is to see some Members of the Congress who have suggested that if we have a peace dividend as a result of Gorbachev's new changes and those in Eastern Europe and in the Soviet Union, that if there is a peace dividend, we should somehow look to some foreign countries to see how much we can give to them.

There is an abundance, I would say, of legitimate requests here in this country. If there is a huge peace dividend or even a small peace dividend, we in the Congress ought to look toward using those peace dividends not in the Soviet Union as a first priority, but to look to spend those peace dividends in this country as a first priority, because so many of the projects have been on the drawing board for so many years and have been put on the back burner because we have not had enough money.

I know that the chairman, I think, of this subcommittee, my colleague, shares that concern, and before we run off giving more foreign aid to the Soviet Union, let us give some domestic aid to the people in the Mississippi Valley who have been suffering from floods and problems every year, only to be told that there is not enough money.

Well, if there is any extra money, let it be used first in our own country, and then second, look to other needs in other parts of the world. [Applause.]

I would just mention, Mr. Chairman, that there are three projects of particular importance dealing with coastal Louisiana that I know you are aware of because you have authorized them. The Davis Pond, the Caernarvon, and the Bonnet Carre fresh water diversion projects are already authorized, are in various stages of planning and construction, and I certainly hope that the subcommittee can recommend full funding for those projects.

That goes a long way toward addressing the real coastal wetland loss that is so important to the State of Louisiana. I think it is more important to address these major types of construction projects than it is to expand a definition of wetlands when the real problem is right there on the coast where it is obvious it is a wetland. Let us spend some money where it is really needed.

The Red River Waterway project, Mr. Chairman, you know how important—60-percent complete, two-thirds of the costs have been appropriated. Congress, after all the battles, has been very clear saying the Red River project is in the national interest. It should be finished; it should be completed. I support the $87 million I think that has been proposed by the association or whatever the amount that would be needed to have the project completed.

The Mississippi River project, obviously very critical as we are hearing this morning, the deepening of the channel from New Orleans to Baton Rouge, the problem that has developed between Burnside and Baton Rouge with apparently a lack of capacity from the dredging standpoint to meet the requirements, that needs to be addressed.

We need to bring the Corps in and find out where we are going to get the equipment to do the work, but it should be pushed as rapidly as possible.

The flood control, the hurricane protection, and the fresh water diversion projects: we need to continue to adequately funds these projects to protect human lives and human property, and this is where this question is of where the money is going to get spent. I suggest it get spent in this country.

The South LaFourche, Tensas basin, West Jefferson, Pontchartrain, Bossier, Teche-Vermilion districts and others will be presenting their testimony here this morning, and I think that we need to follow their recommendations and do whatever is needed to try and implement them.

Also, finally the question of cost sharing. In a State in as difficult a situation as we are in Louisiana in particular, and most of these States in this area, it is going to be difficult for them to meet some of the cost-sharing requirements. I think we need to work with the districts on this policy to see if something can be modified.

Finally, the Atchafalaya basin. We all know how valuable it is, a legitimate area of wetland loss, and it needs more than just lip service. It needs actual funding and it needs it desperately and it needs it now.

So, Mr. Chairman, as a freshman Senator I am particularly pleased to look up and see the person running the show is my senior Senator, who is an expert in this area, and I just put these recommendations on the record in order for the committee to, hopefully, act on them in a favorable manner and congratulate and thank very sincerely all of those who have come up and traveled at their expense to be with us.

I think that is a pretty good indication of how important these projects are.

Thank you, Mr. Chairman. [Applause.]

Senator JOHNSTON. Thank you very much, John, for a really good statement, and all of your nice words about me are very much appreciated.

Senator BREAUX. They are true.

[The statement follows:]

STATEMENT OF SENATOR BREAUX

MR. CHAIRMAN, THANK YOU FOR THE OPPORTUNITY TO TESTIFY BEFORE YOUR SUBCOMMITTEE THIS MORNING. I AM TESTIFYING TO URGE YOUR CONSIDERATION AND SUPPORT OF THE REQUESTS YOU WILL HEAR TODAY FROM REPRESENTATIVES OF THE STATE OF LOUISIANA, ITS LEVEE DISTRICTS, PORTS, AND WATERWAY ORGANIZATIONS.

THE LOWER MISSISSIPPI RIVER AND ITS TRIBUTARIES ARE VITAL TO THE NATION'S NAVIGATION AND COMMERCE. MANY OF THE REQUESTS YOU WILL HEAR TODAY ARE VITAL TO KEEPING THOSE NAVIGATION SYSTEMS VIABLE.

YOU WILL ALSO HEAR REQUESTS TODAY FOR ENSURING FLOOD CONTROL AND HURRICANE PROTECTION SYSTEMS ARE ADEQUATE TO PROTECTING THE CITIZENS OF LOUISIANA FROM THE NATURAL FORCES OF THE RIVER.

FINALLY, AS CRITICAL AS NAVIGATION, FLOOD CONTROL, AND HURRICANE PROTECTION IS THE NEED TO PROTECT OUR RAPIDLY DISAPPEARING COASTAL WETLANDS. THE STATE OF LOUISIANA ALONE CONTAINS 40% OF THE NATION'S COASTAL WETLANDS AND IS EXPERIENCING 80% OF THE NATION'S COASTAL WETLANDS LOSS. THESE WETLANDS ARE ERODING AT A RAPID RATE PRIMARILY DUE TO THE WAY THE MISSISSIPPI RIVER HAS BEEN CONSTRAINED FOR NAVIGATION. SEDIMENT AND FRESHWATER THAT USED TO FLOW FREELY AND NURTURE THE DELTA AREA ARE NOW FORCED INTO THE DEEP WATERS OF THE GULF OF MEXICO BY NAVIGATION AND FLOOD CONTROL STRUCTURES.

THERE ARE THREE PROJECTS OF PARTICULAR IMPORTANCE THAT CAN HELP ARREST THIS RAPID RATE OF LOSS. THE DAVIS POND, CAENARVON, AND BONNET CARRE FRESH WATER DIVERSION PROJECTS ARE OF PARTICULAR IMPORTANCE TO PREVENTING FURTHER EROSION OF PRECIOUS COASTAL WETLANDS. THESE PROJECTS ARE AUTHORIZED, IN

VARIOUS STAGES OF PLANNING AND CONSTRUCTION, AND I URGE THE COMMITTEE TO PROVIDE FULL FUNDING FOR THESE PROJECTS.

SENATOR JOHNSTON AND I HAVE ALSO SPONSORED LEGISLATION TO HELP RESTORE LOUISIANA'S COASTAL WETLANDS. THIS LEGISLATION ALSO REQUIRES THE CORPS OF ENGINEERS TO REVISE ITS MISSION TO INCLUDE ENVIRONMENTAL RESTORATION EFFORTS ON AN EQUAL BASIS WITH NAVIGATION AND FLOOD CONTROL PROJECTS FOR CONSIDERATION. I BELIEVE THE CORPS, AS IT HAS DEMONSTRATED IN LOUISIANA THROUGH THE THREE FRESHWATER DIVERSION PROJECTS LISTED ABOVE, CAN BE CRITICAL TO DEVELOPING PROJECTS TO RESTORE CRITICAL WETLANDS AREAS THROUGHOUT THE COUNTRY.

OTHER WATER RESOURCES PROJECTS CRITICAL TO LOUISIANA INCLUDE:

A. RED RIVER WATERWAY:

1. THE PROJECT IS NEARLY 60 PERCENT COMPLETE; TWO-THIRDS OF ITS COST HAS BEEN APPROPRIATED.
2. CONGRESS HAS SPOKEN CLEARLY AND EMPHATICALLY ON BUILDING THE PROJECT.
3. I URGE CLEAR AND EMPHATIC CONGRESSIONAL DIRECTION TO CONTINUE.
4. FOR FISCAL YEAR 1991, CONGRESS SHOULD RESTORE FUNDING FOR THE CORPS TO CONTINUE WORK AT LOCK & DAM 3 AND LOCKS & DAMS 4 & 5.
5. I SUPPORT THE $87 MILLION LEVEL PROPOSED BY THE THE RED RIVER VALLEY ASSOCIATION FOR FY'91 FOR THE NAVIGATION PROJECT, OR AN AMOUNT WHICH WILL MAINTAIN CONSTRUCTION AND COMPLETE THE PROJECT. THE ASSOCIATION'S $87 MILLION PROPOSAL IS NEARLY $50 MILLION MORE THAN THE PRESIDENT HAS PROPOSED.

B. MISSISSIPPI RIVER:

1. A MAJOR ECONOMIC AND TRANSPORTATION LIFELINE FOR LOUISIANA AND THE NATION, IT IS IMPORTANT THAT WE CONTINUE TO FUND THE MUCH-NEEDED NAVIGATION, BANK STABILIZATION, FLOOD CONTROL & OTHER FEATURES ON THE MISSISSIPPI RIVER.
2. THE DEEP RIVER PROJECT IS CRITICAL TO NEW ORLEANS AND BATON ROUGE AND THE RIVER COMMUNITIES IN BETWEEN. LET'S CONTINUE TO PROVIDE THE CORPS WITH THE NEEDED RESOURCES FOR THE PROJECT.
3. WE NEED TO MAKE SURE THE RESOURCES ARE AVAILABLE TO OBTAIN THE PROPER DREDGING SERVICES FOR THE DEEP RIVER PROJECT, FROM BURNSIDE TO BATON ROUGE.

C. FLOOD CONTROL, HURRICANE PROTECTION, FRESHWATER DIVERSION:

1. WE NEED TO CONTINUE ADEQUATE FUNDING FOR OUR LEVEE DISTRICTS TO ASSIST THEM IN THE PROTECTION OF LIVES AND PROPERTY FROM FLOODING AND HURRICANES.

2. THE SOUTH LAFOURCHE, TENSAS BASIN, WEST JEFFERSON, PONCHATRAIN, BOSSIER, TECHE-VERMILION DISTRICTS AND OTHERS ARE HERE TO TESTIFY TODAY TO DEMONSTRATE THEIR NEEDS.

3. ALSO IMPORTANT TO OUR LEVEE DISTRICTS IS THE ISSUE OF COST-SHARING ON FLOOD CONTROL PROJECTS. WITH THE ECONOMY IN THE STATE STILL DEPRESSED IN MANY AREAS, HAVING THE FINANCIAL BASE TO RAISE REVENUES FOR THE LOCAL INTEREST'S SHARE IS DIFFICULT. WE NEED TO WORK WITH THE DISTRICTS ON THIS POLICY.

D. ATCHAFALAYA BASIN:

1. JUST AS IMPORTANT TO OUR STATE AND TO THE NATION IS THE ATCHAFALAYA BASIN. ITS INVALUABLE NATURAL RESOURCES HAVE MADE IT A PRIMARY REGION FOR WHICH WE MUST CONTINUE TO PROVIDE ASSISTANCE.

THANK YOU, MR. CHAIRMAN, FOR THIS TIME. THANK YOU FOR THE ASSISTANCE WHICH YOUR SUBCOMMITTEE HAS PROVIDED OVER THE YEARS. I ASK, ON BEHALF OF LOUISIANA OFFICIALS HERE TODAY, THAT THE SUBCOMMITTEE ASSIST THEM WITH THEIR REQUESTS AND NEEDS. I LOOK FORWARD TO WORKING WITH YOU AND THEM ON BEHALF OF THEIR PROJECTS.

STATEMENT OF RONALD BESSON, PRESIDENT, WEST JEFFERSON LEVEE DISTRICT, MARRERO, LA

Senator JOHNSTON. Mr. Grugett, please proceed.

Mr. GRUGETT. The next witness is Mr. Ronald Besson who is president of the West Jefferson Levee District.

Mr. BESSON. Good morning, Senator Johnston and Senator Breaux. My name is Ron Besson, president of the West Jefferson Levee District and the a member of the executive committee of the Lower Mississippi Valley Flood Control Association, and past president of the Louisiana Levee Association.

My discussions today will center around several topics that we are deeply concerned about, and I will try to make them as brief as possible.

BENEFIT-COST RATIO CALCULATION

First, there are problems with the benefit-to-cost ratio as determined by the Federal Government. This particular problem exists all over the valley and, specifically, the Teche-Vermilion at this particular time.

They are told that their project will not be economically justified because the benefits are being reduced. The reason for the reduced benefits is that the Federal Government is using a figure that is $4 less than the farmers are actually receiving for the sale of their rice.

We have just learned that the Secretary of the Army's Office is producing a national average for this type construction work. Since we in the valley are economically depressed, our construction costs for the type of work that we are concerned about is presently the lowest in the Nation, and if the national average is used, our computed costs will certainly increase.

This will only compound our problem with reduced benefits and increased costs. It will be highly unlikely that any flood control project in the lower Mississippi Valley would be economically justified using this criteria.

COST-SHARING ISSUE

I would like to briefly touch on cost sharing. As a member of the Lower Mississippi Valley Flood Control Association, I have certainly never opposed cost sharing because we recognize that as being the law of the land.

However, if cost sharing is to work and partnerships are to be effective, we feel that it is essential that we do everything possible to lower the costs associated with engineering and design and with supervision and administration in order to make these particular projects affordable.

If we do not, it is our opinion that many needy projects will never become a reality simply because they will not be cost efficient either to the local sponsor or to the Federal Government.

Therefore, lower costs are certainly in the best interests of the Federal Government and the local sponsor, because regardless of where the dollar comes from, it belongs to the public and they are entitled to a dollar's work for a dollar spent.

My next topic is the local cooperation agreement or LCA, and I will personalize this a little bit. The West Jefferson Levee District has recently entered into a local cost-sharing agreement with the Corps of Engineers on the west bank hurricane protection project, and most recently we were approached for what we consider a most significant change in the LCA.

We find that the language which is written regarding the hazardous waste substances is totally unacceptable to our levee board. This proposed change in the LCA will provide that the cost of environmental investigations to determine the existence and locations of hazardous waste sites on a construction site will be cost-shared.

However, the West Jefferson Levee District will be solely responsible for any and all necessary cleanup costs. It would not be cost shared. It is our understanding that this language is from the Secretary of the Army's Office and is rooted in a policy decision not to use public funds for hazardous waste cleanup.

If the West Jefferson Levee District were to execute an agreement with this language in it and hazardous waste is encountered in the construction site, the Federal Government would have no incentive to approve a deviation in the alignment to avoid the site.

Further, we would have none of the legal support of the Federal Government behind us to require the former landowners or lessees to pay for the cleanup.

At this point, we have no information from which to formulate a position as to whether or not hazardous waste sites do exist, and if so, what would be the cost to Federal Government standards.

I am sure you must realize that many hazardous waste sites cost millions of dollars to clean up. How can we expect the local sponsor to bear this tremendous cost? Remember, the local sponsor is touted to be an equal partner with the Federal Government on the project.

If it were to be a true partnership, should it be not be cost-shared? Webster's definition of partnership is, and I quote, "a relationship resembling a legal partnership, and usually involving close cooperation between parties, having specified and joint rights and responsibilities."

That is our understanding of a partnership, and I do not believe anyone would disagree with that. There are two possible alternatives to this problem. The first would be to insert language which would require the Government to deviate in the alignment in lieu of cleanup providing this approach would be less costly.

Any additional costs related to the deviation would be cost shared; however, since our particular hurricane protection project is built on the wetland-nonwetland interface line, the problems are if we deviate into wetlands, land acquisition in nonwetlands, the land acquisition would be considerably higher.

On the other hand, if we deviate into wetlands, we would need EPA approval, which as we both know is practically impossible, and it would also result in probably very lengthy delays.

The second solution, and by far the most realistic one, would be to change the proposed language so that the cleanup would be cost shared.

ABILITY-TO-PAY ISSUE

My next topic is regarding the ability-to-pay criteria as per Public Law 99-662, and what was the real intent of Congress regarding this portion of the law. The West Jefferson Levee District is beginning the construction of a hurricane protection levee project from Westwego to Harvey Canal in the vicinity of New Orleans, to start in mid-1990. This is a cost-shared project.

We are also in the planning stages for the second phase of this project, which will protect communities each of the Harvey Canal. This phase of the project will, hopefully, be implemented in 1993, with the third phase to be the Lake Cataoucatche inclusion into the project, hopefully in 1995.

The West Jefferson Levee District's total cost-sharing amount would be approximately $78 million. Is it not a fact that it would be a rarity for any community in our Nation to absorb a local cost of $78 million?

Perhaps that was the intent of Congress when they put the ability-to-pay criteria into the law that once a community had totally exhausted their ability to pay for much-needed flood protection, perhaps the cost-sharing ratio would be reduced.

In closing, I would like to thank all of the Members of Congress for the help that they have given us in the past with all of our projects.

We would also like to pay a very special thanks to the New Orleans District of the Corps of Engineers, Col. Rick Gorski and his folks; without their help none of these projects that we have going on the way we have them would be possible.

Last but not least, I am sure you realize that everyone in this room today is here for one sole purpose and that is to do their very best for flood protection in the States that they represent and that is why we are here today and some of the topics we may discuss with you, I realize they are difficult from time to time.

We ask you to consider them. We ask you to look at what we are requesting from you and help us in any way you can. Thank you.

Senator JOHNSTON. Thank you very much for an excellent statement, Mr. Besson.

We are getting a little bit behind schedule. I think we are about 30 minutes behind schedule now, so we can pick it up so that all the witnesses will get a chance to testify this morning. I would hate for them to get knocked off the schedule.

Mr. GRUGETT. Thank you, Mr. Chairman, we understand perfectly, and next, Mr. Curtis Patterson, Assistant Chief Engineer with the Louisiana Department of Transportation and Development.

STATEMENT OF CURTIS PATTERSON, MEMBER, EXECUTIVE COMMITTEE, LOWER MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION

Mr. PATTERSON. Thank you. Mr. Chairman, I will keep mine rather brief. I am certainly glad to be with you here and present a statement from Louisiana. We do have a written brief that we have turned in that will spell out more specifically the needs of Louisiana and what we are supporting.

We are dealing primarily with the drainage and flood control matters, hurricane protection matters in Louisiana and we do have a great need for those, as you are well aware.

But some items do need mentioning, one of which is the Amite River and tributaries flood control project which is of great concern to us, especially those of in the metropolitan Baton Rouge area.

Record floods have devastated this area for the past several years, the latest time being just this past December where over 500 structures were again flooded. The State is actively pursuing a flood control reservoir on the Amite River, spending thousands of dollars to get that study made, but it is still a few years away.

In the meantime, the Corps has been moving ahead with the Amite River and tributary studies, part of which is known as the Comite River diversion. The Comite River diversion can be a separable project and provide separable benefits under that program, both in the headwater areas of the Comite River as well as the downstream effects on the Amite River itself.

So we are urging that the funds be provided, both for the Amite River and tributary studies and those planning funds for the Comite Division project.

LOUISIANA STATE PENITENTIARY, LA

Another authorized project that concerns us is the Louisiana State Penitentiary levee, which was authorized in the 1986 water resources bill. So far, it has not been included in the budget request and we do not want the project to be automatically deauthorized.

The Mississippi River is high right now and we have already experienced some problems with the existing levees around the Angola in this current high-water time.

We urge Congress to please find a few dollars to move this project into the preconstruction phase, before November, I suppose, of 1991, will be its deadline to start. So, if we do not get it started this year, certainly we have to have it started by this time next year or that consideration.

In 1973, as some of you may recall, the river was very high. It nearly topped the levee there. It was so close to topping it that they had to sandbag the levee and even then they were not sure whether it would hold and came up with a master plan of moving certain inmates out into various river parishes and, as you can well imagine, this caused quite a concern to the citizens, to think that they might have the type of inmates that are usually housed in Angola in their various towns while the flood waters were there. But fortunately, the river went down just before they moved them out.

RED RIVER WATERWAY PROJECT

The Red River Waterway navigation project does not have adequate money budgeted for the continued accelerated construction of this project. The State then joins with the Red River Waterway Commission in asking that we find the funds somehow to keep this accelerated program there.

The State is doing what it can to help in that effort; already we have a trust fund that was passed by the Louisiana Department of Transportation and Development which in it provides for some moneys for helping develop and expand port activities.

I am certain that when the guidelines and procedures for that program are developed and how we will handle that program and the evaluation processes and procedures, it will expand and there may be some moneys there to help expand port activities and probably help establish those new ports that are trying to develop along the Red River.

In addition to the navigation benefits and economic realizations that are expected from the Red River Waterway project, the State of Louisiana also passed this past year a program for the economic evaluation of uses of the Red River water in Louisiana.

A council has been appointed, a technical committee has been appointed, and they started that study to put things together to show the various ways that they can use waters from the Red River for economic development.

So you see this project has a far-reaching effect in Louisiana, the northwest part of Louisiana, and that whole region of the Red River. So we are anxious to see that it gets brought to completion.

MISSISSIPPI RIVER SHIP CHANNEL, BATON ROUGE TO THE GULF, LA

We are very much interested in having the Mississippi River ship channel, Baton Rouge to the gulf project completed. There are no funds in the budget for the construction of phase 2, which is to go from Donaldsonville to Baton Rouge.

The State of Louisiana originally requested that the project be constructed in phases because of the Corps' high estimated cost of pipeline relocations which we are obligated to cost share.

We did not intend for the Corps to consider the project to be two or three separate projects requiring each phase to stand alone in order to construct the 45-foot depth. It was authorized as one project, as its name applies, to go from a beginning point to an ending point at that depth and we have not reached that ending point yet.

The State of Louisiana has its share of the project costs in hand and is ready to sign a cost-sharing agreement with the Corps, and we are waiting on the Corps to complete its economic evaluation study for the second phase, which we just do not think is necessary.

The project is also authorized to go to 50-foot and 55-foot depths, with the State paying greater portions of the construction costs for those greater depths. We can understand the separate economic studies or separable projects or these greater incremental depths. It is the 45-foot depth that we do not understand why it has to have its separate economic evaluation. We still look at it as one continuous project.

HARBOR MAINTENANCE FUND

We have heard of the administration's proposal to raise the harbor maintenance tax to cover 100 percent of the cost for maintenance dredging. We are not sure we are in acceptable minds for this concept. The benefits derived from the existence of these ports usually spread to benefit the whole country.

We are in disagreement with the Corps over the cost-sharing features of the Ouachita River levee project, and we are in support of the statement just made by the Association of Levee Boards in that respect. The Ouachita River levee project, looked after by the Tensas Basin Levee District, is estimated at some $18 million.

In that effort there are some culverts that have deteriorated, taking about $6 million to replace those culverts; that is one-third of a total project that is being classified as general maintenance.

Maintenance is mowing the levees, cleaning out those culverts, and what have you; to install those culverts is a major construction project activity, not just general maintenance. So we urge you to consider our recommendations and expressions of interest in this matter.

Many other projects are in need in Louisiana. As has already been mentioned, Senator Breaux mentioned the words on downriver of the levees of the Mississippi River, the flood control efforts in the Atchafalaya basin. We are certainly in support of those. We need the moneys to continue those efforts. They are not finished yet, so we need to bring those to completion.

We appreciate the opportunity to be here, Senator, and to come before this committee at any time, and we certainly appreciate all of the efforts made by this committee in bringing those funds to Louisiana for these various water control projects in our State.

Thank you very much.

[The statement follows:]

STATEMENT OF CURTIS PATTERSON

NAVIGATION, HURRICANE PROTECTION AND WATER RESOURCES PROJECTS IN LOUISIANA

The Louisiana Department of Transportation and Development, Division of Flood Control and Water Management, is the agency designated to represent the State of Louisiana for the coordinated planning and development of water resources, including flood control, navigation, drainage, water conservation and irrigation projects; therefore, this statement is presented on behalf of the State of Louisiana. We are pleased to present the endorsement and recommendations for Fiscal Year 1991 appropriations for Louisiana projects. The projects listed herein are separate from those in the statement by the Division of Flood Control and Water Management on the Mississippi River and Tributaries Project.

In making the following recommendations regarding construction, surveys and some selected operation and maintenance items, the State of Louisiana, in general, supports the President's budget recommendations for Fiscal Year 1991. These recommendations are made, not because the projects are unworthy of higher funding levels but because we agree that a balanced budget and reductions in projected deficits are worthy objectives and are in the best interest of the nation at this time; however, we also feel that water resources projects are probably the most worthwhile and cost effective projects in the Federal budget, having to meet stringent economic justification criteria not required of other programs. We ask that this be taken into consideration in the final decision making process to allocate the available funds.

PROJECT	BUDGET ALLOWANCE	AND	LOUISIANA REQUEST
Construction			
Grand Isle & Vicinity		$ 2,659,000	
Lake Pontchartrain & Vicinity, Hurricane Protection		11,655,000	
Larose to Golden Meadow		4,210,000	
Mississippi River, Gulf Outlet		1,157,000	
Mississippi River Ship Channel, Baton Rouge to Gulf		5,500,000	
New Orleans to Venice		15,900,000	
Ouachita & Black Rivers		0	
Ouachita River Levees, Including Bawcomville		0	
Pearl River Slidell, St. Tammany Parish, La.		730,000	
Red River Waterway	$39,147,000		$90,000,000
Westwego to Harvey Canal, La.		3,700,000	
Preconstruction, Engineering & Design			
Aloha-Rigolette Area, Red River, LA		$ 400,000	
Comite River, LA		700,000	
Tangipahoa, Tchefuncte & Tickfaw Rivers, LA		50,000	
Upper Bayou Teche		400,000	

PROJECT	BUDGET ALLOWANCE AND LOUISIANA REQUEST
Authorized Studies	
Amite River & Tributaries	$ 400,000
Bayou Lafourche & Lafourche Jump Waterway	22,000
Gulf Intracoastal Waterway, LA & TX Section	0
Louisiana Coastal Land Loss and Marsh Creation	171,000
Louisiana Coastal Shore & Barrier Island Erosion	0
Louisiana Coastal Area, Hurricane Protection	78,000
Louisiana Coastal Area, Louisiana Comprehensive Coastal Plan	563,000
Louisiana Coastal Area, Mississippi River Delta	0
Mermentau River, GIWW to Gulf	100,000
Mermentau-Vermilion & Calcasieu Rivers and Bayou Teche	460,000
Mississippi River Gulf Outlet, Bank Erosion	0
Pearl River Basin	0
Red River Basin, AR & LA, Comprehensive Study	425,000
West Bank of Mississippi River in the Vicinity of New Orleans	0
Operation and Maintenance	
Atchafalaya River, Bayou Chene, Boeuf & Black	$ 3,607,000
Barataria Bay Waterway	1,900,000
Bayou Bodcau Reservoir	368,000
Bayou Lafourche & Lafourche-Jump Waterway	0
Bayou Pierre	38,000
Bayou Segnette Waterway	188,000
Bayou Teche	1,005,000
Bayou Teche & Vermilion River	275,000
Caddo Lake	97,000
Calcasieu River & Pass	3,475,000
Freshwater Bayou	2,535,000
Gulf Intracoastal Waterway	10,890,000
Houma Navigation Canal	165,000
Lake Providence Harbor	258,000
Madison Parish Port	68,000
Mermentau River	1,320,000
Mississippi River, Baton Rouge to Gulf	52,000,000
Mississippi River Gulf Outlet	7,280,000
Mississippi River Outlets, Venice	2,040,000
Ouachita & Black Rivers	4,831,000
Pearl River, LA	0
Pearl River, MS	1,049,000
Red River Waterway - Mississippi River to Shreveport	3,567,000
Removal of Aquatic Growth	1,525,000
Wallace Lake	156,000
Waterway - Empire to the Gulf of Mexico, LA	232,000

LOUISIANA COASTAL STUDIES

Louisiana's coastal marshes are fast disappearing, our fisheries industry is deteriorating and we need to do all we can as quickly as we can to stop these losses. We are pleased that the Corps of Engineers has begun to study these problems in earnest. We desperately need the assistance. The Corps of Engineers has published a brochure entitled "Crisis on Louisiana's Coast ... America's Loss." And it IS America's loss, not only Louisiana's. Louisiana marshes produce each year 30% of the nation's fisheries worth $680 million and 40% of the nation's wild fur and hides harvest worth $17 million. More than 66% of the waterfowl that use the Mississippi Flyway find winter haven in Louisiana's wetlands ... another $58 million a year industry. Twenty-two percent of the nation's oil and gas production worth $27.1 billion in 1985 came from Louisiana's wetlands and offshore waters. The marshes also act as a natural buffer to hurricanes protecting the nation's investment in the inland navigation system and ports.

We urge the Corps to expedite the authorized studies on Land Loss and Marsh Creation and the Louisiana Comprehensive Coastal Plan. We also urge the Corps to implement more wetland enhancement projects using dredge material under existing authority of Section 150 of the 1976 Act and Sections 1135 and 1155 of the 1986 Act. Under Section 22, we urge full funding for Louisiana so that other critical coastal needs can be addressed. We urge Congress to appropriate the funds requested in the President's budget for all these studies and to continue to support this effort to save the nation's natural resources and to protect its economic investment.

MISSISSIPPI RIVER SHIP CHANNEL, BATON ROUGE TO GULF

We are very much interested in having the Mississippi River Ship Channel, Baton Rouge to the Gulf, Project completed. We notice that there are no funds in the budget for construction of Phase II. The State of Louisiana originally requested that the project be constructed in phases because of the Corps' high estimated cost of pipeline relocations which we are required to cost share. We did not intend for the Corps to consider this project to be two separate projects requiring the second phase to stand alone. We are distressed that the policy of separating the project into phases is subverting the wishes of Congress. It was authorized as one project as its name implies. The State of Louisiana has its share of the project cost in hand and is ready to sign a cost sharing agreement with the Corps. We are waiting on the Corps.

AMITE RIVER AND TRIBUTARIES and COMITE RIVER DIVERSION

These studies help both the Comite and Amite river flood prone areas. We are pleased that the Comite River Diversion project is finally in the preconstruction phase and urge its construction at the earliest opportunity. We support the continued study of the Amite River and its tributaries.

RED RIVER WATERWAY - MISSISSIPPI RIVER TO SHREVEPORT, LA.

The State of Louisiana wishes to express its desire to your committees for increased spending on the Red River Waterway Project. The budget request presented by the Corps does not meet the needs of the project or the Corps' capability. The accelerated construction schedule mandated by your funding recommendations in previous years has saved the taxpayers of the United States $300,000,000 on the construction of the Red River Waterway Project and we urge the continuation of this policy.

We wish to express our thanks to the Appropriations Sub-Committees on Energy and Water Development of the House and Senate for allowing us to present this brief on the needs of the State. Without reservation, practically every single project in Louisiana which has been made possible through actions of these committees has shown a return in benefits many times in excess of that contemplated by the authorizing legislation. The projects which you fund affect the economy of not only Louisiana but the nation as a whole. The Division of Flood Control and Water Management appreciates the accomplishments of the past and solicits your consideration of the appropriations requested for Fiscal Year 1991.

MISSISSIPPI RIVER AND TRIBUTARIES PROJECT

The Louisiana Department of Transportation and Development, Division of Flood Control and Water Management, is the agency designated to represent the State of Louisiana in the planning and orderly development of water resources. This statement is presented in behalf of the State of Louisiana and contains endorsements and recommendations for Fiscal Year 1991 appropriations for Louisiana projects in the Mississippi River and Tributaries Project.

MISSISSIPPI RIVER AND TRIBUTARIES
SUMMARY OF RECOMMENDED APPROPRIATIONS

LOUISIANA PROJECTS	BUDGET ALLOWANCE	AND	LOUISIANA REQUEST
Construction			
Atchafalaya Basin		$32,000,000	
Atchafalaya Basin, Floodway System		11,700,000	
Channel Improvements		109,875,000	
Mississippi Delta Region Project Caernarvon and Davis Pond		4,260,000	
Mississippi River Levees		20,300,000	
Tensas Basin, AR & LA		2,000,000	
Red River Backwater Area		(2,000,000)	
Tensas-Cocodrie Pumping Plant		(0)	
General Investigations			
Atchafalaya Basin (Water & Land Resources)		0	
Boeuf-Tensas Basin		0	
Preconstruction, Engineering and Design			
Louisiana State Penitentiary Levee	0		$ 300,000 ~~$1,000,000~~
Mississippi & Louisiana Estuarine Areas		0	

LOUISIANA PROJECTS	BUDGET ALLOWANCE AND LOUISIANA REQUEST
Operation and Maintenance	
Atchafalaya Basin	7,105,000
Baton Rouge Harbor - Devil Swamp, La.	170,000
Bayou Cocodrie & Tributaries	155,000
Bonnet Carre Spillway	653,000
Channel Improvement	62,887,000
Lower Red River - South Bank Levees	63,000
Mississippi River Levees	6,922,000
Old River Control Structure	6,715,000
Red River Backwater Area	1,917,000
Tensas Basin, Boeuf & Tensas Rivers	2,387,000

NOTE:

The projects listed above are only those in Louisiana and directly affecting the State. We realize that there are others outside of Louisiana that are vitally important to the Project and in these areas, we endorse the recommendations of the Lower Mississippi Valley Flood Control Association.

ATCHAFALAYA BASIN
(Budget: $32,000,000) (Request: $32,000,000)

This project is a Main Stem component of the flood control plan for the Mississippi River and Tributaries Project. The Mississippi River can safely carry only one-half of the project flood, or 1,500,000 cubic feet per second, below Old River; the other 1,500,000 cubic feet per second must be discharged through the Atchafalaya Basin. The levees which must confine this flow to the basin are now deficient because they have settled below original design grade due to consolidation of the underlying soils, and the design has been revised upward. This places the lives and welfare of 650,000 people and their property and improvements in 13 parishes in the immediate vicinity of the Atchafalaya Floodway in jeopardy each flood year. The tax assessment records indicate the value of potential flood losses to be approximately $8 billion, not including public improvements. Over the past half century, we have supported the Mississippi River and Tributaries Project and have agreed that construction of flood protection works should start upstream and progress downstream. As a result, the Mississippi River and Tributaries Project is now more than 90% complete in sites upstream from Louisiana while the levees in the Atchafalaya Basin can contain only approximately 75% of the project flood. Work on this project has been underway since 1928 and isn't scheduled for completion until the year 2000. We request that Congress provide $32,000,000 for this project for Fiscal Year 1991.

CHANNEL IMPROVEMENTS
(Budget: $109,875,000) (Request: $109,875,000)

Channel improvements and stabilization provide protection of levees and the many improvements behind them, as well as preventing unsatisfactory alignment where the river's bank is unstable. This project is also a Main Stem component of the flood control improvement program for the Mississippi River and the benefits are the same as for the other main stem components.

The Mississippi River and Tributaries Project above Louisiana is about 90 percent complete but to a much lesser extent within Louisiana. Because of the improvements upstream, increased flows are a major problem in Louisiana where the project is lagging. The funds we are requesting will provide for the dredging and revetment work necessary to accommodate these increased flows.

MISSISSIPPI RIVER LEVEES
(Budget: $20,300,000) (Request: $20,300,000)

Construction of mainline Mississippi River Levees in Louisiana also lags behind the construction in the upper valley. The same reasons that apply to our request for funds for channel improvements on the Mississippi River and improvements in the Atchafalaya Basin, apply equally well to our request for additional funds for the Mississippi River levees.

MISSISSIPPI DELTA REGION PROJECT, CAERNARVON AND DAVIS POND
(Budget: $4,260,000) (Request: $4,260,000)

We urge the expedited completion of the Caernarvon Freshwater Diversion Project and the initiation of Davis Pond at the earliest possible opportunity. The State of Louisiana's commitment to these projects is demonstrated by our agreement to provide 25 percent of the cost of construction, operation and maintenance of the Caernarvon and Davis Pond structures despite Congressional authorization of those projects at 100 percent Federal cost.

It is requested that $4,260,000 for fiscal year 1991 be provided for construction of these very beneficial projects.

LOUISIANA STATE PENITENTIARY LEVEE
(Budget: $ 0) (Request: $ 1,000,000)

The Louisiana State Penitentiary Levee was included into the Federal system of the Mississippi River and Tributaries Project by Congress in 1986. The Water Resources Development Act of 1986 established a five (5) year automatic deauthorization for projects not funded within that time frame. The administration has not included this project in their budget. The State also has requested credit for work already done. This levee is in jeopardy now. We need this project to be included in the Corps' budget and request that Congress provide $1,000,000 for this project in fiscal year 1991 to begin preconstruction, design and engineering.

LOCAL CONTRIBUTIONS FOR FLOOD CONTROL IMPROVEMENTS

Historically, Louisiana has always done its part in cooperation with the Federal agencies concerned with flood control. The Louisiana State Board of Engineers, the forerunner of the Division of Flood Control and Water Management, was created in 1879, the same year as the Mississippi River Commission, to coordinate the planning and construction of the required flood control facilities to protect the State. Since that time, local expenditures for flood control have exceeded $730,000,000. This amount adjusted to 1979 dollars represents expenditures in excess of $5.3 billion. Nearly one-half of the potential flooded area of the Lower Mississippi River Valley lies in Louisiana. Local expenditures for flood control have increased with the growth of the valley. This record not only meets, but exceeds any National Water Policy local participation requirements ever put into practice.

The State of Louisiana, Division of Flood Control and Water Management, in particular, wishes to commend the Appropriations Sub-Committees on Energy and Water Development and express our appreciation for the foresight and understanding exhibited for water resources projects which are vital to the national interest. We solicit your further consideration of the recommendations presented herein.

Senator JOHNSTON. Thank you very much, Mr. Patterson. That is an excellent statement and we will try to accommodate you on that, which is a big shopping list and an important one, and I agree with everything you have said there. I do not see why we cannot proceed with the Amite and Comite flood studies.

It is very vitally needed. I did not fly over it in this flood, but I flew over it a few years ago when we had a flood and I know what that basin does. It is a terrible hazard to property and to life actually. So we have got to do something about that and I hope this study will help us.

Mr. Grugett, very quickly for your final witness.

Mr. GRUGETT. Very quickly, sir, and thank you, Mr. Chairman. Our final speaker is Mr. David Solomon from Helena, AR.

STATEMENT OF DAVID SOLOMON, PRESIDENT, WHITE RIVER DRAINAGE DISTRICT

Mr. SOLOMON. Mr. Chairman, my name is David Solomon. I am president of the White River Drainage District of Phillips and Desha Counties, AR, with offices in Helena, AR.

I know it is not politic to dispute or disagree with the chairman, especially when we are up here, but I think that the stars of this proceeding and hearing are the members of the Lower Mississippi Flood Control Association who are sitting in the audience, not the speakers.

Senator JOHNSTON. Well, they were mighty good, especially those from Louisiana.

Mr. SOLOMON. We think the Arkansas ones are better. I am the final speaker of the association and I am a member of the executive committee of the Lower Mississippi Flood Control Association, like the other speakers.

SUMMARY OF FUNDING REQUEST

I will attempt to summarize some of what our other speakers have said, but also to touch briefly on a few items contained in statements filed for the record. As has been stated, we support the fiscal year 1991 budget amount of $334,500,000 for the Mississippi River and tributaries project.

We hope that between now and October 1 we are successful in our attempts to convince the Congress to direct more responsible criteria for cost sharing in order that productive work can proceed on the uncompleted portions of the project.

While the work accomplished to date is serving a highly useful purpose in protecting the vast area from normal floods, the valley is still vulnerable to a greater flood, the imminence of which increases with each passing year.

Each year's delay in completion of all the major features of the comprehensive project amplifies the risk of experiencing a devastating flood as well as the loss of accrued benefit.

We note that the budget contains funds for studies that will not culminate in construction unless the ability-to-pay criteria now being used is changed to consider the economy of the area. These study funds may be better used elsewhere.

Mr. Simmons has listed for you some of the uncompleted parts of the overall projects that were omitted from this budget. Those parts are elements and features of a single comprehensive overall project and failure to complete them will cripple the project.

We request that if funds are appropriated for Yazoo basis reformation study, then the Corps of Engineers be directed to complete it as rapidly as possible, with no consideration given to reducing any flood protection now authorized.

We request that the Corps be directed to place emphasis on achieving the authorized 12-foot stable and reliable navigation channel between Baton Rouge, LA, and Cairo, IL, in order that the economic benefits may be realized soon.

We believe that section 404 of the Clean Water Act of 1977 was a well-intended piece of legislation that is now being used by Federal and State agencies and by private organizations to delay the construction of needed water resource and flood control projects, and that the procedures and regulations issued by Federal agencies pursuant to passage of this act has deprived citizens of the use and enjoyment of their private property without due process of the law and such delays and deprivations are both unnecessary and intolerable.

We disagree with the policy of using so-called normalized prices for agricultural commodities to compute benefits of water projects. This policy unrealistically lowers the benefits derived and makes it very difficult to justify flood control projects in rural areas of our nation.

We are of the opinion that the present administration's ability-to-pay criteria, wetlands program and the use of normalized commodity prices does not follow full congressional intent and that it has caused suffering both to private citizens and whole communities and we urge the Congress to require the proper application.

A Federal program of river development and improvement must go on. A long history of the world proves that when a nation hesitates in its internal betterment, it begins to slip backward. We need to move forward.

Thank you for the opportunity to express our concerns to the committee.

Senator JOHNSTON. Thank you very much, Mr. Solomon.

ADDITIONAL PREPARED STATEMENTS

We will include in the record all of the statements submitted in support of projects in the lower Mississippi Valley region, along with a list of those individuals here in support of the testimony presented today.

Mr. GRUGETT. Thank you, Mr. Chairman, we appreciate your time, we always appreciate your time with this committee.

[The information follows:]

Lower Mississippi Valley Flood Control Association

INDIVIDUALS ATTENDING HEARINGS BEFORE THE ENERGY AND WATER DEVELOPMENT SUBCOMMITTEE ON APPROPRIATIONS

MARCH 27, 1990

MISSOURI

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Mr. Eddie C. Marshall, III
Mr. John Moxley
Mr. Ellott Raffety

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Mr. Harry Bock
Mr. Riley Bock
Mr. Larry Dowdy
Mr. Vic Downing
Mr. James Fletcher
Mr. E.B. Gee, Jr.
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Mr. Billy Jack Davis
Mr. A.P. Kersey
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Mr. C.L. Denton, III
Mr. Dan Felton, III
Mr. Bill Felty
Mr. Thomas McDaniel
Mr. W. Gordon Morris
Mr. W.P. Morrison
Mr. J.L. Shaver, Jr.
Mr. W.M. Smith, Jr.
Mr. Rueben Stubblefield
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Mr. Steve Wilson

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Mr. Jimmy Heidel

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Mr. Marc Dupuy, Jr.
Mr. Richard Gibson
Mr. Ken Guidry
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Mr. Pat Johnson
Mr. Ben Littlepage
Mr. Robert Lucky
Ms. Cathy Penrod
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Mr. Albin Provosty
Mr. Ned Randolph
Mr. Donald Sonnier

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Mr. David Camardelle
Mr. Eugene Fitchue
Mr. Alex Guidry
Mr. Louis Lacour
Mr. Leslie Lanusse
Mr. Phil Loyacano
Ms. Barbara Martin
Mr. Frank Muscarello
Mr. Franklin Price
Mr. Ray Satiny
Mr. Bill Scheffler
Mr. Roger Stack
Mr. Andy Valence

STATEMENT OF JOSEPH F. MOONEY, JR.

SUBJECT:	FY 1991 APPROPRIATIONS Flood Control, Mississippi River & Tributaries
GROUP:	Lower Mississippi Valley Flood Control Association
SUMMARY:	Support the Association's request Comments on Items in the Yazoo Basin Dangers of Delay During Reformulation Study Flood Damages Suffered in 1989 and 1990 Importance of Agriculture in the Delta Appreciation to Congress for Benefits Received

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

This statement - prepared by Joseph F. Mooney, Jr. of Clarksdale, Mississippi, Chief Engineer for the Yazoo-Mississippi Delta Levee Board and selected members of that Board, -- is submitted today, March 27, 1990, on behalf of the entire Board and of the citizens they represent in the Yazoo Basin.

As members of the Lower Mississippi Valley Flood Control Association, we support the request for FY 1991 appropriations for the Mississippi River and Tributaries Project. We also support the concerns expressed by the general spokesman, Mr. Mark Simmons, and by the summation spokesman, Mr. David Solomon. We specifically support the FY1991 budget amount of $29,225,000 for the Yazoo Basin and wish to offer comments concerning each item within that budget:

Upper Yazoo Projects - the $2,275,000 will be applied to the continued construction of the 3A2 Levee. This remaining link in the protection for the City of Belzoni and the rural population of the surrounding area in Humphreys and Leflore County should be completed as quickly as possible.

Tributaries - The $4,200,000 will be applied to the second of four levee and channel items on the Pelucia Creek Project. This item is providing necessary flood protection for subdivisions on the south side of the City of Greenwood and the Rising Sun Subdivision in LeFlore County.

Demonstration Erosion Control - the $12,000,000 will be applied to a number of grade control structures in the many streams transitioning from the bluff areas into the Delta.

Big Sunflower - Steele Bayou - the $4,600,000 will be used for the construction of weirs and channel work in Item 66-B of the Steele Bayou work. This is one of the major outlets of the City of Greenville and involves work in and around the environmentally sensitive Swan Lake Area.

Yazoo Backwater Fish and Wildlife Mitigation Lands - the $250,000 will supplement the $4,000,000 worth of lands acquired during the current fiscal year for mitigation due to the construction of the Yazoo Backwater Project . The Corps of Engineers is to be complimented for successfully locating and acquiring from willing sellers the mitigation lands for fish and wildlife losses in this project area. We also commend the Corps of Engineers for their imaginative approaches to offset the effects of unavoidable damage to wildlife habitat and the environment. In addition to acquisition of lands, they are utilizing structures and construction work to enhance conditions for wildlife, particularly migratory waterfowl.

Reformulation Study - The $5,900,000 will continue the studies originally started as a two-year review study in 1989. This amount of money is needed because of the change in the scope and magnitude of the original review study. The information we are receiving on the reformulation study causes us concerns which we will now address more fully.

The reformulation study must be conducted in such a way as to permit construction of urgently needed work to proceed at the most orderly pace possible.

The President's Budget request for Fiscal Year 1991 provides 5.9 million dollars for a reformulation study of the Yazoo Projects. Through the U. S. Army Corps of Engineers, we have been advised that the study will be completed in phases as shown in this table.

Reformulation Study

Phase	Project	Start	Draft Report	Final Report
I	Pelucia Creek	Underway	March 90	March 90
II	Steele Bayou	Underway	December 91	December 92
III	Upper Yazoo Projects	Underway	December 92	December 93
IV	Yazoo Backwater	January 93	December 96	December 97
V	Tributaries	January 93	December 97	December 98

The format and timetable for the study seems totally unacceptable because of the critical delays that will be introduced into the schedules toward the completion of the various projects. Particularly noteworthy are the Upper Yazoo Projects item and the Tributary item which have such direct effect on the damages which will be described later in this statement. It seems quite obvious that the needs of the project beneficiaries and all the people of our state as expressed through the recommendations of our Governor would best be served by adhering closely to the original time schedule for restudy as directed by the Secretary of the Army in the fall of 1988. The Secretary indicated that FY 1989 and FY 1990 work would proceed on schedule while a two-year restudy was being conducted. Unfinished construction would be funded by FY 1991 appropriations, then, restudied items of work as approved would be placed into the FY 1992 and subsequent schedules.

Delaying approval of further construction on the Upper Yazoo Projects until after December of 1993 and approval of further construction on the Tributaries until after December of 1998 would introduce 5 to 10-year delays in scheduling critical construction. We wish to show you why these delays are unacceptable.

Nearly one/half million people of the Yazoo - Mississippi Delta were damaged in some way or another by repeated flooding during 1989, and again in 1990. Last spring, nearly 700,000 acres of land were flooded of which 490,000 acres were cleared lands. Between 30,000 and 40,000 acres never did dry up sufficiently to raise a crop in the 1989 season.

Hundreds of householders in towns, rural communities, and on farms suffered repeatedly in 1989 and 1990 from the destruction of their household goods and property. They, and the children, and the elderly, endured hardship through the inability to use the public roads to go to and from work, schools, medical facilities, etc. They were imperiled by loss of access to medical facilities, by loss of police and fire protection, and by exposure to water bourne disease and pollutants from the breakdown of sanitary facilities. They suffered these damages in January of 1989, March of 1989, June of 1989, and again in February of 1990.

In 1989, the private damages described above, and the public damages such as destruction and deterioration of roads, bridges, and other infrastructure were so great that Governor Mabus found it necessary to declare most Delta Counties as disaster areas. Although these counties were not recognized as Federal disaster areas in 1989, there was some Federal help available primarily through Small Business Administration loans.

With the destructive floods which have taken place so far in 1990, Governor Mabus has once again had to designate many of those same counties as disaster areas to obtain state and federal assistance. This year, President Bush has named Coahoma County, Quitman County, Panola County, and Tallahatchie County as Federal disaster areas. Federal Disaster Assistance Centers have been set up in Marks, Mississippi and other locations where the amount of damages are being tabulated and sources of assistance are being identified.

The four counties along the Yazoo - Tallahatchie - Coldwater System which still have not received their proper share of flood relief are Quitman County, Tallahatchie County, Panola County, and the northern part of Leflore County. In these counties, the Yazoo and Tallahatchie Rivers simply do not have sufficient capacity to carry the project flood flows without spilling out and causing extensive flooding. When these rivers are full, the tributaries cannot empty so that heavy rainfalls in many Delta communities have nowhere to go. Waters simply backup into homes, into sanitary systems, over streets and roads causing human misery and economic loss.

Additionally, since the Yazoo and Tallahatchie Rivers do not have adequate capacity to handle project flood flows, the discharges from the four reservoirs must be kept at well below design discharges in order to prevent unnecessary downstream flooding. In periods of repeated heavy rainfall such as we experienced last spring and are experiencing again this year, levels in the reservoirs cannot be lowered sufficiently between rain events, thereby causing the reservoirs to approach or exceed their storage capacity. Once the storage capacity is exceeded, the Corps of Engineers begins to lose the ability to regulate and to moderate flows through the Tallahatchie and Yazoo Rivers. The people of the four counties cited are then at the full mercy of the elements.

The Upper Yazoo Projects and the Tributary Items are the last important parts of the Yazoo Headwater Project remaining to be completed. They are essential in that they provide the channel capacities required to safely carry the flood flows of the Yazoo Basin through the Delta and into the Mississippi River. Relief from the terrible damages to the people of the East Delta Counties can only come to the same degree and in the same time frame as the increments of these projects are completed and become effective. Any delay in construction will only result in continued losses from flood damages.

Reformulation should recognize the importance of agriculture to the economic health of the Delta, of the State, and of the Nation.

Farm production and light manufacturing form the basis of the Delta economy and contribute significantly to the state and national economies. Some economists maintain that production of crops and goods are the only true measure of economic vitality. Assuming they are correct, these repeated flood losses constitute a terrible drain on our local and state resources and are partly responsible for the economic depression of our area. Initial reports from those studying poverty and employment opportunities in communities along the Mississippi River seem to indicate that flood control and healthy agriculture are essential to the economic wellbeing and development of our area.

As stated, agricultural flooding was a severe problem in1989. Stoneville Experiment Station economists published this table of flood losses.

1989 Estimated Flood Losses in the Mississippi Delta

	Acres flooded	3-yr avg yield per acre	Value of lost production
Cotton	41,450	764 lb.	$25,507,803
Soybeans	373,000	19.6 bu.	$44,888,312
Rice	1,300	53 cwt.	$420,290
	415,750		$70,816,405

This gloomy agricultural picture is being repeated again in 1990 because of winter wheat losses, and with reservoirs at very high levels, the stage is set for a repeat of last year's crop losses. It should be noted that the flooded lands are not all in one big location. They are scattered throughout the stricken areas depending upon the topography and contours of the land. Because they are scattered, they cause inefficiency to agricultural operations on lands that were spared actual flooding, and they preclude simple solutions like purchasing the flood prone lands and converting them to some other use.

Maintenance of rivers and tributaries must proceed concurrently with any other activities including studies.

Although we seldom offer comment concerning matters of operation and maintenance, it seems that timely maintenance of the Tallahatchie River and of tributaries such as Cassidy Bayou are critical as we wait for the Upper Yazoo Projects' construction work to come to that area. At present, the maintenance is being held up for environmental paperwork, thereby greatly compounding the problems of people in Lyon, Tutwiler, Lambert, and Marks, all of which are urban areas that are supposed to get priority attention.

Thanks to the Congress for the benefits already received from the Projects.

As terrible and unnecessary as the described damages are because the Yazoo Projects remain uncompleted, we must be aware that major areas of the Delta are relatively flood free because of the work already completed and in place. For example, the completion of Arkabutla, Sardis, Enid, and Grenada reservoirs greatly reduced the volume and frequency of serious headwater flooding in the counties along the Yazoo river system. In the lower reaches of the Yazoo River, the completion of the Lower Auxiliary Channel and the completion of the first 18% of the Upper Yazoo Projects have reduced flood stages by 4 to 5 feet all the way up to the Belzoni area. The combined effects of the completed works is to reduce flood heights, flood frequency, and flood duration. The damages prevented by the completed works during major floods of 1973, 1983, and 1989 probably far exceed the amount already spent on all the projects.

We respectfully request that the Congress direct the Corps of Engineers to conduct the reformulation study in such a way as to avoid any delay in the orderly prosecution of vitally needed flood control works in the Yazoo Basin. We are confident that the Congress recognizes the tremendous benefits of the work in place and the urgency to complete the project as rapidly as possible. We urge that you continue to fund a reasonable schedule of flood control construction and to fund concurrent mitigation for unavoidable wildlife and environmental losses.

STATEMENT OF THE LITTLE RIVER DRAINAGE DISTRICT

MY NAME IS LARRY D. DOWDY. I LIVE IN CAPE GIRARDEAU, MISSOURI AND SERVE AS MAINTENANCE SUPERVISOR AND SECRETARY/TREASURER FOR THE LITTLE RIVER DRAINAGE DISTRICT WHICH SERVES A LARGE PORTION OF LAND IN SOUTHEAST MISSOURI. OUR DISTRICT IS INVOLVED IN THE MOVEMENT OF APPROXIMATELY TWO MILLION ACRES OF LAND. MY TESTIMONY WILL RELATE SPECIFICALLY TO THE F. Y. 1991 APPROPRIATION FOR THE ST. FRANCIS BASIN PROJECT WHICH IS A PART OF THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT WHICH YOU ARE MOST FAMILIAR WITH.

MY TESTIMONY IS ON BEHALF OF OUR DISTRICT AS WELL AS OTHER LEVEE AND DRAINAGE DISTRICTS WITHIN THE ST. FRANCIS BASIN PROJECT, BEING BOTH IN SOUTHEAST MISSOURI AND NORTHEAST ARKANSAS. TO MY KNOWLEDGE, ALL OF THE DRAINAGE AND LEVEE DISTRICTS THAT WE ARE REPRESENTING TODAY ARE LOCALLY TAX FUNDED AND OPERATED AND ARE DEPENDENT UPON EACH OTHER FOR THEIR OUTLET OF WATERS THROUGH THE ST. FRANCIS RIVER AND ULTIMATELY DEPOSITING THAT WATER IN THE MISSISSIPPI RIVER NEAR HELENA, ARKANSAS.

IN THE PROPOSED 1991 BUDGET THERE IS INCLUDED $10.5 MILLION FOR CONSTRUCTION IN THE ST. FRANCIS BASIN AND WE BELIEVE THAT THIS AMOUNT IS ADEQUATE AND WE ASK THAT YOU GIVE YOUR SUPPORT TO THIS BUDGETED AMOUNT. ALSO THERE IS $2.685 MILLION FOR VARIOUS PROJECTS WHICH ARE BEING SURVEYED AND STUDIES ARE BEING DONE FOR THE CONTINUATION OF PLANNING AND ENGINEERING IN ORDER TO ADVANCE A FINAL PROJECTION ON THESE ITEMS. WE ARE LIKEWISE REQUESTING THAT YOU APPROVE AND SUPPORT THOSE BUDGETED AMOUNTS.

FURTHER, AND VERY IMPORTANT TO OUR DISTRICT, IS THE MONIES THAT ARE WITHIN THE BUDGET FOR MAINTENANCE OF PROJECTS THAT THE FEDERAL GOVERNMENT HAS COMPLETED AND UPON WHICH THE RESPONSIBILITY OF MAINTENANCE IS THAT OF THE FEDERAL GOVERNMENT. THESE AMOUNTS OF $121,000,000 OF WHICH SOME WILL BE SPENT WITHIN SOUTHEAST MISSOURI AND NORTHEAST ARKANSAS ARE AMOUNTS WHICH WE SUPPORT WHOLEHEARTEDLY.

THE OVERALL ASKING FOR THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT IS $334,500,000 WHICH IS THE AMOUNT THAT WE ASK YOU TO SUPPORT AND THAT THESE AMOUNTS CAN AND SHOULD BE ADEQUATE TO CONTINUE THIS MUCH NEEDED PROJECT.

WE ALSO MUST POINT OUT TO YOU THAT THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT WAS A CONGRESSIONAL SET PROJECT THAT WAS ESTABLISHED BY LAW TO SOLVE A NATIONAL PROBLEM AS THE MISSISSIPPI RIVER CARRIES OVER FORTY PERCENT (40%) OF THE WATER THAT FLOWS THROUGH OUR NATION AND SOME PARTS OF CANADA. WE WISH THAT THIS OBJECTIVE THAT WAS INITIATED SOME TIME AGO BY MEMBERS OF CONGRESS, COULD CONTINUE TO BE AS IT WAS INTENDED AND NOT AS WE SEEM TO BE DRIFTING FURTHER AND FURTHER FROM THE PROJECT BEING A NATIONAL PROBLEM, BUT ONE THAT IS OF BENEFIT ONLY TO THOSE WHO CAN AFFORD IT, AND THOSE WHO CAN'T CONTINUE TO SUFFER FROM THEIR NOT BEING ABLE TO PROVIDE THE COST-SHARING THAT WAS IMPLEMENTED JUST A FEW YEARS AGO.

AS AN EXAMPLE OF A PROJECT THAT IS WITHIN OUR IMMEDIATE AREA WHICH WILL, FOR ALL INTENTS AND PURPOSES, GO UNDONE BECAUSE OF THE PRESENT COST SHARING CRITERIA, I WILL GIVE YOU SOME INFORMATION PERTAINING TO IT. BECAUSE NO ONE IS ABLE TO PROVIDE THE COST-SHARING AMOUNTS WHICH WERE A MINIMUM OF TWENTY-FIVE PERCENT (25%). THE INCONVENIENCES AND PROBLEMS WILL CONTINUE AS THEY HAVE FOR MANY YEARS. A STUDY HAD BEEN REQUESTED TO EXTEND WORK ON AN OLD FORK OF CASTOR RIVER WHICH WAS NOTHING MORE THAN AN OLD SLOUGH WHICH DID NOT HAVE CONTINUAL FLOWS BUT DID SERVE AS AN OUTLET FOR LOCAL WATERS DURING HEAVY RAINFALLS. FOR YEARS MANY ROADS HAVE BEEN INUNDATED, HOMES FLOODED, WELLS POLLUTED, AND OTHER SUCH INCONVENIENCES RESULT BECAUSE NO ONE WILL, OR CAN, DO THE NECESSARY WORK THAT IS REQUIRED. YET THOSE WHO ARE SUFFERING FROM THESE INCONVENIENCES OF FLOOD WATERS ARE DOING SO BECAUSE THE WATERS THAT ARE COMING INTO THEIR HOUSES AND ON TO THEIR LANDS IS FROM WATERS THAT HAVE ORIGINATED SEVERAL MILES AWAY. AT PRESENT THE GROUND RULES THAT ARE BEING USED BY THE U. S. ARMY CORPS OF ENGINEERS, NO RELIEF IN THE NEAR FUTURE IS IN SIGHT.

WE RECOGNIZE THAT THERE IS A NEED TO REDUCE THE FEDERAL BUDGET AND AS WE HAVE DONE IN THE LAST SEVERAL YEARS, WE ARE NOT ASKING FOR AN INCREASE IN THE ABOVE MENTIONED PROJECTS, BUT ARE ONLY ASKING FOR THOSE AMOUNTS THAT ARE WITHIN THE PROPOSED 1991 BUDGET. WE RESPECTFULLY REQUEST THAT YOU GIVE DUE CONSIDERATION TO THESE REQUESTS AND HOPE IN TIME WE CAN CHANGE SOME OF THE PROBLEMS THAT ARE DELAYING AND PLACING IN JEOPARDY OTHER GREAT AND CONTINUAL PROJECTS THROUGHOUT THE ENTIRE VALLEY AND SPECIFICALLY WITHIN OUR REGION.

SINCE COMPILING THE ABOVE INFORMATION, OUR ASSOCIATION HAS BECOME AWARE THAT THERE ARE ADDITIONAL CAPABILITIES FOR APPROXIMATELY SEVENTEEN (17) VARIOUS ITEMS WITHIN THE MAINTENANCE AND OPERATIONS OF THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT IN NORTHEAST ARKANSAS AND SOUTHEAST MISSOURI, AND THESE CAPABILITIES ARE $5.492 MILLION IN ADDITION TO THAT INCLUDED IN THE 1991 PROPOSED BUDGET. WE WOULD LIKE YOUR SUPPORT FOR THESE ADDITIONAL MONIES IF THERE IS NOT MONEY WITHIN THE 1991 PROPOSED BUDGET THAT COULD BE TRANSFERRED TO DO THESE NECESSARY AND MUCH NEEDED MAINTENANCE PROBLEMS. THE LARGEST ITEM OF THIS $5.492 MILLION IS FOR A CHANNEL CLEANOUT IN ARKANSAS NEAR HIGHWAY 64 AND THE TOTAL AMOUNT OF THE PROJECT IS $1.525 MILLION. THE NEXT LARGEST ITEM IS FOR REPAIR OF SOME SCOURING OF CASTOR RIVER IN MISSOURI AND THE AMOUNT OF THAT ITEM IS $1.050 MILLION. AS YOU CAN SEE, ALMOST HALF OF THIS WORK IS ENTAILED IN THOSE TWO PROJECTS. WE WOULD HOPE THAT YOU WOULD FIND A FAVORABLE SUPPORT OF THESE ITEMS AS ADDTIONAL MONEY THAT COULD BE ADDED TO THE 1991 BUDGET, WHICH WILL BE PROJECTS THAT WILL RENDER GREAT BENEFITS TO THE LANDOWNERS AND CITIZENS WHO ARE AFFECTED BY THEM.

ANOTHER ISSUE THAT WE WOULD LIKE TO INFORM YOU ABOUT THAT COULD BE, AND PROBABLY WILL BE A VERY DEFINITE AND REAL PROBLEM, IS THE WETLANDS ISSUE, WHICH IS BEING IMPLEMENTED BY VARIOUS FEDERAL AGENCIES. IN THIS CURRENT AGREEMENT OR ACT WE SEE A TOTAL IGNORING OF THE NEEDS OF THE RURAL AND FARMING AREAS AND WE ALSO FEEL THAT THE PRESENT IMPLEMENTATION OF THAT ACT IS NOT FAIRLY ADMINISTERING THE CONGRESSIONAL INTENT. IT APPEARS TO US THAT THE INTENT OF THE EXECUTIVE DEPARTMENT IS TO REDUCE OR LITERALLY SHUT DOWN THE PRODUCTION OF AGRICULTURE, AND IF THAT IS SO, THEN THEIR EFFORT IS WORKING QUITE WELL. IF THERE IS ANYTHING THAT THIS COMMITTEE CAN DO TO CHANGE THE TENOR OF THAT ACT OR THE INTERPRETATION OF IT, THEN WE WOULD GREATLY APPRECIATE YOUR SUPPORT AND EFFORTS IN THAT WAY.

STATEMENT OF BILLY J. FELTY, WEST MEMPHIS, AR

My name is Billy J. Felty. I live in West Memphis, Arkansas, and I am Chief Engineer of the St. Francis Levee District of Arkansas. I am filing this statement in behalf of the Levee and Drainage Districts in the entire St. Francis Basin, Missouri and Arkansas, which depends upon the major drainage channels included in the St. Francis Basin Project for outlets for the complex drainage system in the basin. I know that you are familiar with our system of locally funded and operated Drainage Districts, each limited to work within its own boundaries and dependent upon others for outlets to the St. Francis and Mississippi Rivers.

The first authorization for work in the St. Francis Basin Project was in 1936. Local interests in Missouri and Arkansas have cooperated fully with each other in seeking funds and attempting to expedite the work which is so important to the entire basin. The Basin Project provides essential flood control and drainage improvements in an 8,400 square mile area. The only outlets for the drainage from the Missouri part of the Basin are through Arkansas and the complex system of levees and channels are of great economic importance to both states, and a large number of individuals are present at this hearing to show their support for the Project.

The budget for FY 1991 includes the sum of $10,200,000 for the St. Francis Basin Project. We believe this amount is sufficient to provide continued progress toward completion of the project. However, if funds are not available for transfer within the overall budgeted amount, we would request that $5,492,000 be added to the appropriations to provide funds for the additional capability as indicated by the Corps of Engineers on projects within the Basin as listed: Channel cleanout work on Madison to Highway 64, Buffalo Creek, Cockleburr Slough and Hatchie Coon Creek in Arkansas, Elk Chute Ditch and Pemiscot Bayou in Missouri, as well as repair scours at Caster River and Soudan in Arkansas, gravel restoration in Drainage District No. 7 and Haleside, Arkansas, repair slides on Elk Chute Levee, paint pumping station and purchase trash rack for Drainage District No. 17, purchase mobile crane and exhaust silencers for Huxtable Pumping Station.

We also support the appropriations of the budgeted amounts for the other items in the Mississippi River and Tributaries Project, a total of $334,500,000. Our position on the other items has been expressed by other witnesses. Our needs have always been given fair consideration by this Committee and we appreciate the work you do to advance the development of water resource projects.

STATEMENT OF THE BOARD OF COMMISSIONERS, PONTCHARTRAIN LEVEE DISTRICT

The Levee District

The Pontchartrain Levee District extends downstream from the City of Baton Rouge a distance of 115 river miles, includes the east (left descending) bank of the Mississippi River, and is comprised of portions of East Baton Rouge, Iberville, Ascension, St. James, St. John and St. Charles Parishes. The Mississippi River east bank levee is continuous throughout the Levee District, including the Bonnet Carre Floodway.

Extensive development of major industries has taken place in the Pontchartrain Levee District. Along with industrial growth, our Levee District has witnessed a dramatic companion increase in residential and urban expansions. Substantial portions of the Levee District area are used for agriculture. Three nationally ranked deep-water ports are located in and near the Pontchartrain Levee District, the Baton Rouge Port, South Louisiana Port, and New Orleans Port.

The District contains numerous pipeline systems which deliver goods to nationwide distribution points. Interstate Highways 10 and 55 and a number of major U.S. Highways traverse the Levee District, along with major railroads. The Mississippi River 55-foot deep ship channel is the western Levee District boundary.

All these features and many other improvements are protected by the Mississippi River & Tributaries Flood Control Project. Only through continuous, effective flood control improvements and maintenance can this area and the lower river valley meet requirements to serve national needs for industry, employment, deep-water navigation, highway and rail transportation, major pipelines, residential, agriculture and related activities.

RECOMMENDATIONS

Mississippi River Levees: (Amount Budgeted: $20,300,000)

(Amount Recommended: $20,300,000)

In the Pontchartrain Levee District alone several reaches of main line levee must be enlarged and slope paved to change the current status of partial flood protection. Priority should be given to Darrow-Central, Baton Rouge Front and LaPlace-Reserve Levees along with East Baton Rouge Seepage Berm. Earlier this month Union Levee Repairs and Slope Pavement was completed. St. Gabriel Levee is currently under construction. These items are all essential elements and the program must be continued with determination. Future levee enlargements and slope paving are required in five of six Parishes of the Levee District. The Board of Commissioners, Pontchartrain Levee District, urges appropriation of at least $20,300,000 for levee construction in fiscal year 1991. This same amount is carried in the budget.

Channel Improvement: (Amount Budgeted: $109,875,000)

(Amount Recommended: $109,875,000)

Main line levees must be protected from caving banks throughout the lower river reaches where extremely narrow battures are the last line of defense against levee crevasses and failures. There simply is no place left for levee setbacks in the Pontchartrain Levee District. The only proven remedy is to stabilize these continually eroding banks with revetment construction.

We are pleased that the budget level is not declining but should be greater to offset increased costs. This level of spending actually represents a cutback. Revetment work in Louisiana below Old River is only some sixty percent complete. Postponement of critical locations will result in higher costs and could cause levee setbacks. The Pontchartrain Levee District, Board of Commissioners, urges Congress to appropriate $109,875,000 for fiscal year 1991, which is the budgeted amount.

Lake Pontchartrain & Vicinity Hurricane Protection Project

The Pontchartrain Levee District is the local assuring agency for that portion of the project in St. Charles Parish. Full cooperation is being given to the Corps of Engineers. Currently, the Levee District is in process to obtain rights-of-way for construction in this calendar year.

The Board of Commissioners, Pontchartrain Levee District, recommends Congress to appropriate adequate funding to advance the project on an orderly basis.

CONCLUSION

The Board of Commissioners, Pontchartrain Levee District, compliments the Subcommittees on Energy and Water Development for the keen understanding of real needs for the MR&T Flood Control Project and the efficient, alert actions taken to appropriate funds for its many complex requirements. Special commendations are extended to distinguished Louisiana Members of those Committees, Congresswoman Lindy Boggs and Senator Bennett Johnston. We endorse recommendations presented by the Association of Levee Boards of Louisiana, Louisiana Department of Transportation and Development, Lower Mississippi Valley Flood Control Association, Red River Valley Association and Ouachita River Valley Association.

STATEMENT OF THE BOARD OF MISSISSIPPI LEVEE COMMISSIONERS

I am James E. Wanamaker, Chief Engineer, Board of Mississippi Levee Commissioners, Greenville, Mississippi, and I have the privilege of presenting this statement on behalf of that Board and the citizens of this levee district comprising the counties of Bolivar, Washington, Issaquena, Humphreys, and Warren in the lower Yazoo Basin in Mississippi.

As members of the Lower Mississippi Valley Flood Control Association, we strongly support the need for continued funding of the Mississippi River and Tributaries Projects. As was evidenced by the flood events during the past twelve months, these needed flood control projects cannot be completed soon enough. Realizing the tremendous burden placed upon Congress to reduce spending, we appear before you in support of the budget, although there are several items that we feel need to be brought to the attention of the committee.

We cannot help but notice the absence of a number of vital projects from the budget request. In almost every case, these projects have been dropped due to the lack of "Ability to Pay", by the local sponsors, under current guidelines being used to compute the amount of cost sharing. This is something that we were told would not happen. On numerous occasions, during the debate on the Water Resources Development Act of 1986, it was stated that beneficial projects would not be rejected simply because the local interest lacks the resources to pay a share of the cost.

One of the projects not budgeted this year is the Yazoo Backwater Pumping Plant. Until this final element of the Yazoo Backwater Project, authorized almost fifty years ago, is complete, the residents of the lower delta will continue to suffer the hardship and losses from flood damage so that others may benefit. This area today has the threat of flood held precariously over their heads with the reservoirs (Arkabutla, Sardis, Enid, Grenada) almost twenty feet above rule and the Mississippi River just below flood stage. Water in the Backwater area has been above 87.0 feet for over a month and just as the water starts to fall, another rise is on the horizon.

During the flood experienced in the Mississippi Delta during July 1989, the inadequate capacity of the Steele Bayou Structure to pass the required flows was demonstrated when three to four feet of water was held in the Backwater area behind this structure, which was designed to be complemented with the construction of the Yazoo Backwater pumps. The pumps have unjustly been declared a separable item for cost sharing and the project cannot function as authorized without their construction.

Also, as defined by Senator Abnor in the Congressional Record of March 26, 1986, the physical construction of the Yazoo Backwater pumps began on March 25, 1986, when the contract was let. This is over a month before the effective date of April 30, 1986, contained in the law.

During the last forty years, the waters have continued to rise as other areas became leveed, pumping plants completed, and channels improved. These projects put more water to the lower Mississippi Delta faster than ever before. This is evidenced by the fact that the 1973 revised flowline on the Mississippi River is 7 feet higher than the 1956 flowline.

The lower Mississippi Delta counties of Sharkey and Issaquena bear the brunt of the damages being inflicted by this flooding. These two counties were included among the ten counties with the lowest per capita income as identified in the Interim Report of the Lower Mississippi Delta Development Commission. The unemployment rate for these counties exceeds 24%, many times the national average. There is no way imaginable for this area to finance the costs involved for this project as computed under the current guidelines being used by the Corps of Engineers.

As representatives of this area, we plead with you to include clarifying language into the law that will enable the construction of this project to continue free of cost sharing.

Another item in the budget that appears to again delay these much needed projects is the reformulation study of the Yazoo Basin Project, budgeted for $5,900,000 in fiscal year 1991. This has replaced what was presented to us in the fall of 1988 by the Corps of Engineers as a two-year restudy of the project. The two-year study was to coincide with the agreement that the fiscal 1989 and 1990 construction starts would be continued on schedule. Now with the proposed study being expanded, we are faced with two to four years without any construction starts being scheduled. This means that the residents of Greenville and the north delta area must suffer the threat of flood for whatever length of time it takes to complete this study.

We ask that this study be completed as rapidly as possible to avoid subjecting these people to the personal and economic losses they are now experiencing.

We have always realized the need to consider greater levels of flood projection for urban areas and have supported the reduction of impacts on the environment as is to be considered in this study. We cannot agree that reduced levels of agricultural intensification be a guideline to be considered in this study. Agriculture is the backbone of the economy of the Mississippi Delta, and its contribution to the economy of the Delta and the nation cannot be ignored. Any study that reduces the value of agriculture to the Mississippi Delta cannot have merit.

We ask that you do whatever is necessary to insure that the reformulation study be completed in a timely manner in order to provide an unbroken schedule of construction. The people of these areas cannot afford any unnecessary delays in providing these needed projects. We cannot help but be concerned when we see an actual reduction in construction funding in excess of $14,175,000 (includes $5,900,000 for reformulation and $8,275,000 reduced budget request) for the Yazoo Basin, MS in the Fiscal Year 1991 Budget Request. This reduced amount of construction funding can only lead to more delays which, in turn, causes more losses to our residents and higher costs to complete the project.

The Main Line levees along the lower Mississippi River are the most important feature of the Mississippi River and Tributaries Project. We support the budget request of $20,300,000 for continuing the programs to strengthen these flood control structures.

The projects contained in the Mississippi River and Tributaries Budget have proven to be an investment that has provided a return to the economy of our country. We are grateful for the consideration given to us by the committee and appreciate the opportunity to present our requests to you at this time.

STATEMENT OF ROBERT E. COKER, YAZOO CITY, MS

I am Robert Coker; my home is in Yazoo City, Mississippi; and I farm in Yazoo County, Mississippi. I submit this statement in support of the Yazoo Headwater Project in general, and of the Upper Yazoo Projects in particular. The opinions I express are based upon the insights and experience I gained from my sixteen years of service as a Commissioner for the Yazoo - Mississippi Delta Levee District and from knowledge and information passed on to me by my father, Sam H. Coker, during part of his thirty years of service to the same Levee Board.

Having witnessed and experienced the terrible destruction of repetitive floods of the Yazoo Basin, my father was already committed to the rapid completion of the designed plan before he became a member of the Levee Board. It is hard to believe that after his working lifetime and nearly half of mine, the Yazoo Headwater Project still is far from completion.

In Yazoo County, most of the planned work is complete, and we can see the benefits at first hand. Though the upstream floods continue to occur all too frequently, by the time the flows reach our area the river channels have adequate capacity to handle the flows. The levees are available to take care of those occasions when highwater on the Yazoo River meets high stages on the Mississippi River. It would be easy for me and my neighbors to sit back and be unconcerned about the balance of the project, but that would not be right, and we cannot do so.

Both our predecessors and our contemporaries have made extensive and prolonged sacrifices to bring the project along to its present point. Many,

many people have devoted a great deal of time, money and energy to develop the concepts - to promote them locally, on the State level, and on the Federal level, and to work with the Corps of Engineers to accomplish them. Throughout the basin, many people have willingly given up the lands and rights of way required to bring the project to this stage of completion. At the reservoir sites, people had to give up their ancestral homes, farm lands, and in some cases entire towns, to provide the right of way necessary for those reservoirs to function. In my county, landowners gave up the right of way necessary for the Lower Auxiliary Channel which helped reduce flood levels upstream in Humphreys County and Leflore County by as much as five feet. My family and I have given up land for levees along the Yazoo River and for spoil pits for the enlargement of the Yazoo River.

It seems so wrong to me that a few people in the middle reaches of the river who are unwilling to accept the small sacrifices they are called upon to make are able to thwart a project for which so many others have willingly sacrificed. It seems quite selfish for those few people to enjoy the flood relief they have gained at the expense of people in my county and in the hill counties, and yet be willing to stand in the way of extending similar flood relief to the people of Quitman County and Tallahatchie County. Being as generous as I can be, I can only assume that they are being lulled into a false sense of security because of the success of the portions of the project that have already been completed.

Opponents of the project have been quoted concerning the environmental damages of the project, but most of the quotes I have seen are vague and unspecific. I can best judge the project by my own personal experience. As I testified to the Governor's Advisory Committee, the earliest work on the Upper Yazoo Projects was done through me and my neighbors in 1976 and 1977. It included the construction of a levee and the construction of a spoil disposal pit. A levee was constructed through a 400 acre woodland on my property, and the levee was placed on the highest ground so that there was no disturbance to the approximately 150 to 200 acres of wetlands in these woods. The 30 acre spoil disposal pit was constructed on what was then cultivatable land planted to cotton. I have kept this disposal pit clean and in cultivation, but most of my neighbors have allowed theirs to grow up resulting in additional haven for waterfowl, deer and wildlife.

Even with the levee going through my 400 acre woodland, the area still supports deer, squirrels, rabbits, and other wildlife, and during the winter months, some waterfowl. I can honestly say I don't know of any adverse environmental impacts related to this project on this particular place. I have about the same amount of woodland and the same amount of wetland, and I have certainly just as much wildlife. The main difference is it's more accessable. The major impact on this area due to this project has been relief from the floods that we used to experience regularly before the project. I cannot speak for my neighbors up and down the river, but I believe most of them would agree with me in saying that the adverse environmental impacts as a result of this project are almost nonexistent.

Mr. Chairman and Members of the Subcommittee, I submit to you that the plan for the Yazoo Headwater Project, including the Upper Yazoo Projects, as authorized and approved by the Congress is well conceived and has tremendous merit. The benefits which have already been realized from the portions of the project which are now complete stand as testimony to the validity of the project. Careful examination of the facts reveal that environmental damages are minimal and that steps are being taken to provide mitigation for those damages that are unavoidable. The project as presently conceived is both economically and environmentally sound.

Can we, as a nation, afford to lose the productive capacity of this area when our healthy, growing nation is already losing additional highly productive farmland everyday to subdivisions, highways, and similar permanent uses? We must be aware of these trends, and we should consider the fate of small towns already under great stress because of modernization and the reduced need for labor to carry on present agricultural enterprises.

The only apparent flaw to the plan for the Yazoo Headwater Project is the length of time required to extend the needed flood relief to the upper reaches of the Delta, particularly Quitman and Tallahatchie Counties. I urge you to instruct the U. S. Army Corps of Engineers to keep all re-studies and re-evaluations to the absolute minimum of time required thereby preventing any additional delay in providing upstream relief.

I thank you for the opportunity to provide you with this statement and will hope for your favorable consideration of my comments and request.

TOMBIGBEE RIVER AND TRIBUTARIES, MISSISSIPPI

STATEMENT OF ROBERT S. WEIR, EXECUTIVE DIRECTOR, TOMBIGBEE RIVER VALLEY WATER MANAGEMENT DISTRICT

Senator JOHNSTON. Next, we welcome the Tombigbee River Valley Water Management District, Mr. Robert Weir, executive director.

Gentlemen, the schedule calls for 5 minutes, so I hope you can summarize your prepared statement. I hate to cut you short, but we are running behind on my schedule and, in fact, we are over 30 minutes behind, so if you would try to meet that 5 minutes the committee would appreciate it.

Mr. WEIR. Mr. Chairman, distinguished members of this committee and members of the staff, my name is Robert Weir and I am representing the Tombigbee River Valley Water Management District here today.

The Tombigbee River Valley Water Management was created for the purpose of developing and conserving the human and natural resources of our region of Mississippi. We represent 12 member counties located in northeast Mississippi, consisting of approximately 350,000 people; however, our projects may benefit a larger area and a considerably larger population.

Our agency has proudly served as the official sponsor to the U.S. Corps of Engineers in the construction of the Tensaw Waterway and the Tombigbee River Valley Water Management District has also proudly served in the sponsorship of a great number of flood control projects and other water-related projects that have resulted in considerable benefit to our area of the country.

Our goals are to continue addressing and resolving the needs of the people of our area. I have submitted a statement to the committee that includes a number of water resource concerns, but there is one that I wish to point out here this morning, and I will be brief, and this is the Luxapalila Creek project. The project for flood control and related purposes on the Tombigbee River and tributaries, Mississippi and Alabama, which includes Luxapalila Creek, was authorized by Congress in the Flood Control Act approved July 3, 1958, Public Law 85-500.

LUXAPALILA CREEK PROJECT, MISSISSIPPI

The Luxapalila Creek general design memorandum was initially completed by the Mobile District in 1968 and was revised and approved by the Office of the Chief of Engineers in 1970.

Construction of the lower part of this project was completed in 1973 at a cost of $6,594,000,000 through Federal and non-Federal sponsors. A construction contract for the remaining channel works on the approved project segment was advertised and awarded in 1975, subsequent to the final environmental impact statement.

The construction contract for the remaining work on the project segment was terminated due to litigation stemming from environmental concerns.

In 1984 the court dismissed this lawsuit, and for these years the Corps of Engineers and the water management district has continued to attempt to satisfy these concerns as set out by the environmentalists.

They have studied and restudied. They have designed and redesigned this project. The local sponsor has previous investment in this project of some $750,000 and we wish to continue the project at this time, and the remaining cost of the project, in order to comply with the environmental concerns by using the Corps figures, will be approximately $13 million and it will carry a non-Federal investment of some $2.5 million.

LOCAL CASH REQUIREMENTS MET

In recognition of the fact that the local sponsors for Luxapalila Creek portion of the Tombigbee River and tributaries, the Alabama and Mississippi project have already met their requirements for the cash contribution toward the project construction as specified in Public Law 85-500, which authorized the project, current cost-sharing criteria as specific in Public Law 99-662 shall not be applied to the project.

We recommend, Mr. Chairman, that the Secretary of the Army be directed to resume construction of the project in accordance with the construction cost-sharing policy that requires local sponsors to bear 100 percent of all cost of lands and relocations for the project. All other project costs shall be at 100-percent Federal expense.

The Tombigbee River Valley Water Management District is keenly aware of the need for careful attention to the environmental concerns of the area and for the great personal property damage that has been caused by the flood action in Lowndes County, MS, and Lamar County, AL.

[The statement follows:]

STATEMENT OF ROBERT S. WEIR

SUMMARY

TOMBIGBEE RIVER AND TRIBUTARIES

FLOOD CONTROL PROJECT _ PL 85-500, 85th CONGRESS MISSISSIPPI AND ALABAMA

RECOMMENDING CONTINUED SUPPORT OF FLOOD CONTROL PROJECTS ON THE TOMBIGBEE RIVER AND TRIBUTARIES IN THE STATE OF MISSISSIPPI TO THE EXTENT OF THE CORPS OF ENGINEERS' FULL CAPABILITY.

LUXAPALILA CREEK PROJECT _ IN RECOGNITION OF THE FACT THAT THE LOCAL SPONSORS FOR THE LUXAPALILA CREEK PORTION OF THE TOMBIGBEE RIVER AND TRIBUTARIES, ALABAMA AND MISSISSIPPI PROJECT, HAVE ALREADY MET THEIR REQUIREMENTS FOR THE CASH CONTRIBUTION TOWARD THE PROJECT CONSTRUCTION AS SPECIFIED IN PUBLIC LAW 85-500 WHICH AUTHORIZED THE PROJECT. CURRENT COST SHARING CRITERIA AS SPECIFIED IN PUBLIC LAW 99-662 SHALL NOT BE APPLIED TO THE PROJECT.

RECOMMEND THAT THE SECRETARY OF ARMY BE DIRECTED TO RESUME CONSTRUCTION OF THE PROJECT IN ACCORDANCE WITH THE CONSTRUCTION COST SHARING POLICY THAT REQUIRES LOCAL SPONSORS TO BEAR 100 PERCENT OF ALL COSTS OF LANDS AND RELOCATION FOR THE PROJECT (AN ESTIMATED COST OF $3,867,000 AT CURRENT PRICES).

ALL OTHER PROJECT PROPOSED COSTS INCLUDING COSTS FOR FLOOD CONTROL, FLOOD WARNING SYSTEM, EROSION CONTROL, SEDIMENT CONTROL, AND FISH AND WILDLIFE MITIGATION SHALL BE AT 100 PERCENT FEDERAL EXPENSES (AN ESTIMATED COST OF $17,953,000 AT CURRENT PRICES).

TOMBIGBEE RIVER BASIN MISSISSIPPI AND ALABAMA, AND TUSCUMBIA RIVER BASIN, MISSISSIPPI

FLOOD PREVENTION AND CONTROL, SOIL EROSION AND SILTATION CONTROL, WATER QUALITY CONTROL, WATER SUPPLY, RECREATION FISH AND WILDLIFE, ENVIRONMENTAL QUALITY, WATERSHED PROTECTION AND ALLIED PURPOSES - RESOLUTION BY THE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION OF THE HOUSE OF REPRESENTATIVES, UNITED STATES OF AMERICA, ADOPTED SEPTEMBER 19, 1984.

TOMBIGBEE RIVER (EAST FORK BASIN) - RECOMMEND AUTHORIZING FUNDING A DEMONSTRATION PROJECT IN ORDER TO AVOID ADDITIONAL EXPENSE FOR STUDIES AND LAPSE OF TIME THAT WILL ONLY CAUSE FURTHER DAMAGE WITHIN THE BASIN.

The Tombigbee River Valley Water Management District was created for the purpose of developing and conserving the human and natural resources of our region of Mississippi. We represent twelve member counties located in Northeast Mississippi consisting of approximately 350,000 people; however, our projects may benefit a larger area and a considerable larger population.

Our agency has proudly served as the official sponsor to the U. S. Corps of Engineers in the construction of the Tennessee-Tombigbee Waterway.

Tombigbee River Valley Water Management District has also proudly served in the sponsorship of a great number of flood control projects and other water related projects that have resulted in considerable benefit to our area of the country. Our goals are to continue addressing and resolving the needs of the people of our area.

East Fork Project

The East Fork Project is being conducted as part of the U.S. Army Corps of Engineers, Mobile District and U.S. Department of the Agriculture, Soil Conservation Service joint study of the Tombigbee River Basin, Alabama and Mississippi. The Joint Basin Study is being conducted in response to a special Congressional Resolution dated September 19, 1984 (under the authority of Public Law 87-639)

The major resource issues identified in the East Fork Basin Study area are related to sedimentation. The largest percentage of sediments within the basin are the result of streambed and bank erosion (approximately 80 percent), with the remainder coming from eroding agricultural and forest land. Both channel and upland sources of sediment are causing significant adverse impacts including: reduced farmland production, land loss along streambanks, sediment and debris accumulation in the lower reaches of the tributaries and the East Fork, timber damage in the flood plain forest area dedicated to intensive wildlife management as part of the Tennessee-Tombigbee Waterway (TTW) Wildlife Mitigation Program, flooding along portions of the tributaries and East Fork, increased dredging of the TTW navigation channel in Aberdeen Lake and degradation of aquatic habitat of the East Fork, including instream gravel habitat of 3 species of endangered mussels.

The East Fork Basin is a rural area, with very limited urban or industrial land uses. Land use, as well as employment, is dominated by agriculture forestry. The importance of the well being of the land base in the study area is therefore critical to the continuance of these historic rural lifestyles. With approximately 44 percent of the East Fork Basin involved in agriculture, erosion control is a major issue. It is important that the critically eroding areas within the basin be treated in a timely manner to prevent deterioration of the resource base and improve downstream water quality.

The East Fork stream and adjacent flood plain are a productive and diverse ecosystem, recognized on a regional and national level. While enduring tributary channelization in the western drainage and some channel modifications to the main stem, the East Fork has maintained the characteristics and productivity of a natural free-flowing stream. The East Fork Basin supports 98 of the 115 species of freshwater fish found in the upper Tombigbee drainage. With a total of 40 species of unionid mollusks, Epioblasma penita, Pleurobema curtum, and Pleurobema taitianum, is found in the East Fork. In addition, to these significant aquatic habits, the flood plain forest along the East Fork provides habitat for a diverse wildlife community. Much of this flood plain area is owned by the Corps and is managed for wildlife as part of the TTW Wildlife Mitigation Program.

Regarding the sedimentation issues, the Corps and SCS have developed measures that would address the erosion and sedimentation problems in the East Fork Basin. The measures have been systematically developed to address the total-basin area. The measures include stream channel grade control structures, bank protection, land treatment, flood and sediment control structures, minor grade control structures, and filter strips. These measures are believed to be publicly acceptable, implementable, and feasible from economic, environmental, engineering, and sociological viewpoints.

Due to the ongoing nature and severity of the sedimentation problems, implementation of the above measures through a demonstration project similar to the DEC Project, is advisable. Such an approach would reduce future study costs and time necessary to reach the construction phase. In addition to resolving the stream channel and farmland erosion problems in a more timely manner, a demonstration project approach would reduce and possibly reverse the long-term adverse environmental degradation in the East Fork and adjacent flood plain.

Luxapalila Creek Project

The project for flood control and related purposes on the Tombigbee River and Tributaries, Mississippi and Alabama, which includes Luxapalila Creek, was authorized by Congress in the Flood Control Act approved July 3, 1958 (Public Law 85-500)

The Luxapalila Creek General Design Memorandum (GDM) was initially completed by the Mobile District in 1968 and was revised and approved by the Office of the Chief of Engineers in 1970. Construction of the lower 2.1 miles of channel works was completed in 1973 at a cost of $6,594,000 to Federal and non-Federal sponsors. A construction contract for the remaining channel works on the approved project segment was advertised and awarded in 1975 subsequent to the filing of the Final Environmental Impact Statement. The construction contract for the remaining work on the project segment was terminated due to litigation steming from environmental concerns.

In June 1979, the Mobile District determined that a study to supplement the GDM and FEIS was necessary to reaffirm and to reformulate the project segment since the area's development and land use had changed, hydrologic conditions had been altered, and new technical standards and study requirements had been adopted for the planning process since the initial studies were performed in the 1960's. The Mobile District requested approval to supplement the GDM on Luxapalila Creek by letter dated July 25, 1979. Approval was granted in the 1st Endorsement from the South Atlantic Division (SAD) dated August 15, 1979. The Plan of Work for the new study was submitted to SAD in January 1981 and was approved in February 1981. In 1984, the Court dismissed the lawsuit without prejudice to the Plaintiffs. This report presents the planning and engineering procedures used in the development and assessment of plans to reduce damage and damage susceptibility in the flood plain of Luxapalila Creek from Columbus, Mississippi to Millport, Alabama.

The Selected Plan contains a 75-foot bottom width channel from mile 2.1 to Waterworks Road, selective clearing and snagging from Waterworks Road to mile 28.4, transitions at mile 2.1 and Waterworks Road, slope protection, bridge protection, a fabric dam downstream from Waterworks Road, modification of the Columbus water intake, a grade control structure at the mouth of Magby Creek, lateral channels, a diversion channel, a sediment trap, a beaver trapping and dam removal program, timber management on the easement lands between Steens and Millport, the installation of notched riprap sills and pools in the Columbus reach, the installation of notched riprap sills in the Millport reach, and a flood warning system. Federal and non-Federal interests completed relocation efforts on two railroad bridges, four highway bridges, and utility crossing, and Mississippi and Alabama had paid the required cash contribution in anticipation of construction on the project which was halted by the preliminary injunction in 1976.

We recommend that the Secretary of the Army be directed to resume construction of the project in accordance with the construction cost sharing policy that requires local sponsors to bear 100 percent of all costs of lands and relocations for the project. All other project costs shall be at 100 percent Federal expense.

The Tombigbee River Valley Water Management District is keenly aware of the need for careful attention to the environmental concerns of the area and for the great personal property damage that has been caused by the flood action in Northeast Lowndes County and East Columbus.

Tombigbee River Valley Water Management District as local sponsor supports protecting our fish and wildlife habitat, however, the expensive mitigation proposals currently required will most likely prevent the implementation of the project. If the Federal Government supports such policies, they must not shift the financial burden upon the local sponsors. The limited tax base in some parts of our nation will not allow for such expense regardless of the need for the project.

Tennessee-Tombigbee Waterway Wildlife Mitigation, Alabama and Mississippi

Tombigbee River Valley Water Management District wishes to take the opportunity to support the funding for mitigation of lands lost due to the construction of the Tennessee-Tombigbee Waterway in accordance with the Congressional mandate set forth in Section 601 of the Water Resources Development Act of 1986.

STATEMENT OF FRED HAYSLETT, MAYOR, CITY OF COLUMBUS, MS

Senator JOHNSTON. At this time I am going to call on the mayor of Columbus, MS, Fred Hayslett for a few comments.

All right, gentlemen, if you could be very brief. The 5 minutes is up, but I do not want you to get away without summarizing.

Mr. HAYSLETT. Thank you, Mr. Chairman. In May 1988, the Federal Emergency Management Agency announced that, based on new Corps data, the flood plane levels on Luxapalila Creek would be raised up to approximately 6 feet above the then-existing levels and that the floodway would be enlarged on the Luxapalila.

These figures were several feet above the 1979 Easter flood. The city of Columbus contested these figures and hired consulting hydrologists to study the Corps data and rainfall history with regard to discharge frequencies.

After 1 year of study and consulting with the Corps, this flood insurance study was submitted to FEMA on January of this year with hopes that it would be submitted to FEMA's technical consultant, Greenhorn & O'Mara, for evaluation.

However, on March 13 of this year, FEMA notified the city that the flood insurance study would not be revised. That leaves the new high levels in effect and virtually stops economic growth on two major thoroughfares in our city.

Only a return to the original cost-sharing formula and the final completion of this 20-year-old project will renew these growth areas.

Thank you, sir.

Senator JOHNSTON. Thank you very much.

Mr. WEIR. We have Harold Blalock, the president of the board of supervisors for Lowndes County.

STATEMENT OF HAROLD BLALOCK, PRESIDENT, LOWNDES COUNTY BOARD OF SUPERVISORS, COLUMBUS, MS

Mr. BLALOCK. Mr. Chairman, thank you for allowing us to speak today. The Luxapalila Creek projects, the lower part, 2.1 miles was—channelization was done in 1973. Phase 2 was in awarded in 1975. This contract was stopped because of litigation stemming from environmental concerns. This was satisfied in 1984. We had the Easter flood in 1979 on the Luxapalila which did millions of dollars worth of damage.

Probably enough disaster money was spent on the 1979 flood to complete the project, if it had gone on ahead on schedule.

We have records to support the fact that this was the highest ever recorded on the Luxapalila. FEMA does not recognize this as the 100-year flood, so a new study was conducted, and, as the mayor said, the elevation was raised from 1 to 6 feet in many areas.

This will make it almost impossible for any type of development to be on this property. If we can get the Luxapalila project in place, it would give us an automatic reduction from 1 to 3 feet.

Senator JOHNSTON. We will take a look at that project.

Mr. BLALOCK. We need this project real bad and we would appreciate anything you all can do to help us.

Senator JOHNSTON. Please tell Senator Stennis "Hello" if you see him before I do.

Mr. WEIR. Will do. Thank you, Mr. Chairman.

MISSOURI-ARKANSAS RIVER VALLEY PROJECTS

STATEMENT OF EMANUEL CLEAVER, MAYOR PRO TEM, KANSAS CITY, MO

Senator JOHNSTON. Finally, we have the MO-ARK Association, and I want to thank you gentlemen for being patient and waiting and also remind you of the time.

Mr. CLEAVER. We will be mindful of the time. You have already had enough water in here to flood out the chamber. I am Emanuel Cleaver, member of the city council of Kansas City, MO, and mayor pro tem of the city.

I am here today to speak on behalf of the city in support of four critically needed flood control projects. I am joined by Gurnie Gunter, who is the city engineer, and the other spokesperson will be Neale Peterson the mayor of Fairway, KS.

You responded favorably to our water resource needs over the years and appropriated funds for these or flood control projects. Those projects are the Blue River project from the mouth to 63rd Street, the upper Blue River study, Turkey Creek basin study, reauthorization and inclusion of the Brush Creek project in the budget for a new start in 1992.

My purpose here today is to request that you continue our partnership to ensure that these projects which are key to the continued economic growth and liveability of Kansas City continue to receive the funding they need.

BLUE RIVER BASIN PROJECTS

The Blue River project is in its fifth year of construction funding, with approximately 10 years of funding needed to complete the project. Kansas City has been pursuing the improvement of the Blue River channel since the major floods of 1928 and 1929.

After the flood of September 13, 1961, Congress did, in fact, adopt resolutions requesting a study of the Blue River. The Blue River channel improvement project was authorized by Congress in 1970.

Construction efforts have continued in the area between the mouth of the river and 15th Street. To date, three construction projects have been completed, a fourth is under construction, and a fifth is scheduled to start next fiscal year.

We are in the second year of a feasibility study of the upper Blue River. We are currently working closely with the Corps of Engineers in the cost-shared study effort. Our Dodson industrial area, which will benefit from these flood control projects, is forecasted to become a strong economic force in the city when this project is finally completed.

TURKEY CREEK BASIN PROJECTS

Turkey Creek lies in two States, three counties, and affects both commercial and residential properties. The restudy of the Turkey Creek basin is to consider interim solutions for a protection system against the frequent flooding along Southwest Boulevard in Kansas City, MO, and in Kansas City, KS. Both Kansas Cities agree to jointly sponsor a corrective project which the study deems to be economically feasible. The Corps of Engineers is now performing the jointly funded feasibility study.

With your continued support we will work closely to develop the solutions that will solve this very serious problem.

BRUSH CREEK LOCAL PROTECTION PROJECT, MISSOURI

Brush Creek is our fourth and final project and one that requires your immediate attention. Brush Creek runs from the western boundary of the city east through Kansas City's largest and most famous commercial center, the Country Club Plaza, and into the Blue River.

Two record storms occurred in 1977, resulting in catastrophic flooding throughout the metropolitan area. The hardest hit was the Brush Creek basin in Kansas City, MO, with the loss of 12 lives and over $66 million in damage.

Now, in recent legislation that I sponsored, our city council approved the use of in-place sales tax funds for the sale of bonds to provide $50 million for this project.

Mr. Chairman, we are in a unique position of actually having a cost overrun due to the fact that we have already appropriated dollars to widen and deepen Brush Creek in order to have a park beautification system installed.

Two important issues need resolution and require your help. First, reauthorization is required, due to the cost increasing more than 20 percent. The cost growth is primarily due to the additional relocations that will be paid for by the city.

The second issue deals with the need to include this project in the President's budget for a new start in 1991. The city will be spending $2.5 million this summer to relocate the Rockhill Bridge in keeping with the forecast schedule developed through intense coordination efforts with the local district office of the Corps. A new start for this project only requires $1.242 million in fiscal year 1991.

Now, in closing let me say, Mr. Chairman, that we endorse all the projects that MO-ARK is sponsoring.

We in Kansas City continue to want a city that not only the local citizens are proud of, but one that the Nation as a whole is proud of. We can only accomplish this through your cooperation. We urge your continued realistic support of the Kansas City projects and we appreciate Senator Kit Bond, our former Governor and now Senator from the State of Missouri who introduced us.

Senator JOHNSTON. Thank you very much, Reverend Cleaver, we are very glad to have you back before the committee.

[The statement follows:]

STATEMENT OF EMANUEL CLEAVER III

I am Emanuel Cleaver, member of the City Council and Mayor Pro Tem, of Kansas City, Missouri. I am here today on behalf of my City in support of four critically needed flood control projects.

You have responded favorably to our water resource needs over the years and appropriated funds for these four flood control projects. These projects are:

1. The Blue River project - mouth to 63rd Street;
2. The Upper Blue River Study;
3. Turkey Creek Basin Study;
4. Reauthorization and inclusion of the Brush Creek project in the President's budget for a new start in 1991.

My purpose here today is to request that you continue our partnership to insure that these projects which are key to the continued economic growth and liveability of Kansas City to receive the funding they need.

The Blue River project is in its fifth year of construction funding with approximately ten years of funding needed to complete the project. Kansas City has been pursuing the improvement of the Blue River channel since the major floods of 1928 and 1929. After the flood of September 13, 1961, Congress adopted resolutions requesting a study of the Blue River. The Blue River channel improvement project was authorized by Congress in 1970.

Construction efforts have continued in the area between the mouth of the river and 15th Street. To date, three construction projects have been completed, a fourth is under construction, and a fifth is scheduled to start next fiscal year. Modification to eight railroad bridges in this reach has also been completed. Preliminary design of the third and last phase of the channel improvement between Truman Road and 63rd Street should be completed in May of this year. We are pleased with the construction funding, the quality of design and construction, and the Corps' scheduling of the project. We urge your continued support on this important project.

We are in the second year of the feasibility study of the Upper Blue River. We are currently working closely with the Corps of Engineers in this cost shared study effort. Our Dodson industrial area, which will benefit from this flood control project, is forecasted to become a strong economic force in the City when this project is completed.

Turkey Creek lies in two states, three counties, and affects both commercial and residential properties. The restudy of the Turkey Creek basin is to consider interim solutions for a protection system against the frequent flooding along Southwest Boulevard in Kansas City, Missouri, and Kansas City, Kansas.

Both Kansas Cities agreed to jointly sponsor a corrective project which the study deems to be economically feasible. The Corps of Engineers is now performing the jointly funded feasibility study. With your continued support, we will work closely to develop the solutions that will solve this serious problem.

Brush Creek is our fourth and final project and one that requires your immediate attention. Brush Creek runs from the western boundary of the City east through Kansas City's largest and most famous commercial center and into the Blue River. Two record storms occurred in 1977, resulting in catastrophic flooding throughout the metropolitan Kansas City area. Hardest hit was the Brush Creek basin in Kansas City, Missouri, with the loss of twelve lives and over $66 million in damages.

Since that time, several studies have been completed and considerable engineering work has been done as a joint effort between the City and the Corps of Engineers to develop a flood protection project along Brush Creek. To date, preliminary engineering work has been completed; a physical model of Brush Creek has been constructed and testing completed by the Corps' Waterway Experiment Station in Vicksburg, Mississippi, and design has been started with the goal of a construction start this fall.

Due to the City's enormous interest, flood control, economic development and park development in the brush Creek project, we have expanded the project, at substantial additional City cost, to include improvements beyond the original federally coordinated flood control project from State Line to below Paseo. The project will ultimately extend from State Line all the way to Blue River. In addition to the flood protection, the City will be developing a linear waterway park for the entire length. The additional funds beyond the federal flood control money will be paid for by the City.

In recent legislation that I sponsored, our City Council approved the use of in-place sales tax funds for the sale of bonds to provide $50 million for this project. The ultimate Park Plan may require an additional $25-$30 million that will come through a combination of City and private funds during the next five years.

Two important issues need resolution and require your help. First, reauthorization is required due to the cost increasing more than 20%. This cost growth is primarily due to additional relocations that will be paid for by the City. The second issue deals with the need to include this project in the President's budget for a new start in 1991.

The City will be spending $2.5 million this summer to relocate the Rockhill Bridge in keeping with the forecast schedule developed through intense coordination efforts with the local district office of the Corps. A new start for this project only requires $1,242,000 federal dollars in 1990.

As a result of this overall project, we expect a benefit of over $70 million in savings from flood damages in the future. This project is also being viewed as a catalyst for economic development east of our largest commercial area, the Plaza. Without the flood control, however, the Plaza area will remain in jeopardy and growth will be severely restricted.

Mr. Chairman, it will be necessary to dedicate the major portion of our limited capital improvement budget over the next four years towards the Brush Creek and Blue River projects at a time when there are tremendous demands to upgrade other portions of our infrastructure. For either you or the City to fail to follow through with financial support for these projects would create a serious setback in our efforts to abate the flooding that has plagued our citizens too long.

In closing, let me say that we endorse all of the projects that Mo-Ark is sponsoring. We in Kansas City continue to want a city that not only the local citizens are proud of, but one that the nation as a whole is proud of. We can only accomplish that through cooperation with you and others in the federal government. We both benefit from that cooperation. We urge your continued realistic support of the Kansas City projects and thank you very much for your consideration.

STATEMENT OF NEALE PETERSON, MAYOR, FAIRWAY, KS, AND CHAIR, MID-AMERICAN REGIONAL COUNCIL, STORMWATER MANAGEMENT COMMITTEE

Mr. MADGETT. Mr. Chairman, again it is a pleasure to appear before the committee, have that opportunity. Neale Peterson, who was introduced by Senator Bond, mayor of Fairway, KS, chairman of the Mid-American Regional Council for Stormwater Management will make our final statement.

Mr. PETERSON. I will probably set a record for being brief and I am sure you will appreciate it. Yes, I am the mayor of the city of Fairway. Fairway is a small city of about 5,000 people, just across the State line from Kansas City, MO.

As mayor of that little city for nearly 30 years, I have been personally involved in experiencing the loss of lives and the rescue of people from floodwaters, all of which originate from 14 cities upstream and then flow into Kansas City, MO, where during our last big flood in the area a total of 26 people perished.

Today, I represent the Mid-American Regional Council as chairman of the Stormwater Management Committee. The Mid-American Regional Council is the central planning agency for the Kansas City metro area serving about 1.5 million people residing in both the States of Kansas and Missouri.

There are over 8 counties and over 100 municipalities represented by MARC. MARC has been a guiding factor in focusing on solutions to our many bistate problems such as the upper Blue River, Brush Creek, and Turkey Creek.

To that end, we have encouraged adoption of uniform design criteria for the handling of stormwater systems as well as recommending a watershed approach to the permitting under the proposed EPA regulations for stormwater quality control.

We presently have authorization in place for one-tenth of a cent sales tax for stormwater management in both States, together with an agreement from each jurisdiction to participate in a joint effort to resolve our mutual problems. MARC's role in that metropolitan stormwater agreement would include several things.

I urge you to take a look at the testimony submitted for seven of those things, and I will recite just a couple of them to you, like MARC would establish a process to seek coordinated interactions by upstream and downstream neighboring jurisdictions. We would effectuate mediation, resolve bistate conflicts, and those other four or five.

And finally, as chairman of MARC's Stormwater Management Committee, I endorse the funding for the projects requested today, for both their need and as an example of how the Nation can work together in resolution of funding problems. This funding can be the catalyst needed to unite the metro Kansas City area in a well-organized approach to protecting against severe floods that we have experienced for years.

I thank you very much.

Senator JOHNSTON. Mayor, you must be doing something right to be in office 30 years, and we respect seniority around here. So we are glad to help you.

Mr. PETERSON. Senator, thank you, and there is a secret to it and I cannot say it publicly. [Laughter.]

Mr. CLEAVER. Thank you very much, Mr. Chairman, we went over a minute-and-a-half, and we will try to do better next year when we come back.

Senator JOHNSTON. You did very well and we appreciate you all being here.

We will include Mr. Peterson's full statement in the record at this point. And we will also incorporate any additional statements which you have submitted.

[The statements follow:]

STATEMENT OF NEALE PETERSON

I am Neale Peterson, mayor of Fairway, Kansas. Fairway is a small city of about 5,000 people located just across the State Line from Kansas City, Missouri. As Mayor of that little city of nearly 30 years, I have been personally involved in experiencing the loss of lives and the rescue of people from floodwaters that originate from 14 cities upstream in Kansas that flow into Kansas City, Missouri where 26 perished in the last big flood. Today I represent the Mid-America Regional Council as chairman of its Stormwater Management Committee. The Mid-America Regional Council is the central planning agency for the Kansas City Metropolitan Area serving about 1.5 million people residing in the states of Kansas and Missouri. There are eight counties and over 100 municipalities represented by the Council (MARC).

MARC has been a guiding factor in focusing on solutions to our many bi-state flooding problems such as the Upper Blue River, Brush Creek and Turkey Creek. To that end, we have encouraged the adoption of unified design criteria for the handling of stormwater systems, as well as recommending a watershed approach to permitting under the proposed EPA regulations for stormwater quality control. We presently have in place authorization for a 1/10th cent sales tax for stormwater management in both states, as well as an agreement from each jurisdiction to participate in a joint effort to resolve our mutual problems. MARC's role under the Metropolitan Stormwater Agreement would include, but not be limited to the following:

1. The establishment of a process to notify and seek coordinated interactions by neighboring jurisdictions of projects which may have an upstream or downstream impact.
2. Mediation to resolve bi-state conflicts in stormwater management.
3. Providing a mechanism to develop intergovernmental funding for stormwater improvements within watersheds which cross jurisdictional boundaries.

4. Encouragement of activities to promote better stormwater management practices, such as adoption of stormwater design criteria suggested by APWA.
5. Seeking out federal and state assistance for stormwater management programs where appropriate.
6. To date, MARC has assisted in identification of key stormwater improvements and projects within watersheds and encouraging implementation or recommended actions.
7. Serving as an advocate to promote stormwater improvement on a bi-state watershed basis.

As chairman of MARC's committee on stormwater, I endorse the funding for the projects requested today, as an illustration of how this nation can work together in resolving our many flooding problems. This funding can be the catalyst needed to unite the metropolitan Kansas City Area in a more organized approach toward protecting against the severe floods experienced in the past. We sincerely appreciate your serious consideration of our requests.

STATEMENT OF THE CITY OF LENEXA, KS

My name is David Watkins, and I am City Administrator of the City of Lenexa, Kansas. Lenexa is a City of 34,000 located in the Kansas City, Missouri, metropolitan area. I have served as past president of the MO-ARK River Basin Association, and our City continues to be a member of MO-ARK.

The City of Lenexa realizes the need to promote a regional approach to flood control and water supply projects. Accordingly, the City of Lenexa is lending its support to the MO-ARK River Basin Association's support of the following projects which are currently included in the fiscal year 1991 budget as proposed by President Bush:

1. Blue River Basin Study, Kansas City, MO
2. Blue River Basin Planning, Kansas City, MO
3. Blue River Channel Construction, Kansas City, MO
4. Missouri River Levee System, Iowa, Kansas, Nebraska and Missouri
5. Harry S. Truman Dam and Reservoir, Missouri
6. Hillsdale Lake, Kansas
7. St. Joseph, Missouri, and vicinity
8. Soldier Creek Diversion Unit, Topeka, KS
9. Turkey Creek Basin, Kansas and Missouri

However, one project was not included in the President's budget for funding which causes alarm for the City of Lenexa and the MO-ARK Association. This project involves construction of flood control protection along Brush Creek in Kansas City, Missouri. In 1977, this watershed experienced a calamitous flooding which killed 12 persons and caused $66 million dollars of property damage. The City of Kansas City, Missouri, has been working diligently for years with the U. S. Corps of Engineers by participating in reconnaissance studies, planning, and engineering for non-federal share improvements, all in anticipation of Corps funding in the fiscal year 1991 budget. The proposed budget as we understand it, includes no monies for new starts and thus the Brush Creek project is placed in a state of limbo. We strongly encourage the Senate Appropriations Committee on Energy and Water Development to include an appropriation to facilitate the construction of the Brush Creek flood control project. This project has support on both sides of the state line as evidenced by a recent 1/10th of one cent sales tax enacted by the Johnson

County, Kansas, Board of County Commissioners to raise monies for storm water projects including projects in the Brush Creek watershed area. The Brush Creek flood control project is critical to providing downstream improvements to mesh with upstream improvements to be constructed on the Kansas side.

The City of Lenexa and MO-ARK realize the budget pressures facing Congress as it deliberates the fiscal year 1991 budget. However, we note that this project has been a model of local cost sharing crossing two state lines, and the City of Kansas City, Missouri, needs to be commended for the years of advance planning and engineering already completed in anticipation of this project. In fact, because of the extensive work done to date, we take issue with the "new start" designation for the Brush Creek project. In conclusion, we diligently support the inclusion of this construction project in the fiscal year 1991 budget. Thank you for the opportunity to appear before this committee.

STATEMENT OF THE BLUE VALLEY ASSOCIATION

I am Gary Montgomery, a member of the Missouri-Arkansas River Basins Association, and the owner of an industrial firm located on the banks of the Blue River in Kansas City, Missouri. I am here today speaking to you on behalf of the Blue Valley Association Board of Directors and its many member firms for whom I serve as Flood Committee Co-Chairman.

We in the Blue River Valley wish to thank this Committee for its previous support, assistance, and continuing commitment to the Blue River Channel Improvement Project started in 1983. The funds which your Subcommittee approved in the previous years budgets have brought about substantial progress toward the completion of this most worthwhile project; with Stage I being completed and Stage II well underway and progressing on schedule.

At this time, I specifically want to address the Fiscal Year 1991, budget request in the amount of 10,100,000 dollars. These dollars are to be used on continuing construction of the channel modifications on Stage II, and continuing engineering, design, supervision, and administration on Stages II & III of this three (3) stage Blue River Channel Improvement Project. With the completion of Stage II in the next couple of years, the residents and businesses of the Blue River Valley will begin to see some relief from minor floods and with the completion of Stage III in 1999, we will feel safe from the types of floods which have devastated our homes and businesses in past years. We again this year urge your continued support of this important project.

There are two additional Fiscal Year 1991, budget requests for the Blue River Basin in Kansas City, which we are requesting that you also approve. One is for 63,000 dollars for completion of an Authorized Study and the other for 10,000 dollars for Pre-construction Engineering and Design.

The Blue River flows generally South to North to the Missouri River, through the most heavily industrialized area in Kansas City. The Blue River Channel Modification Project extends from the mouth, at the Missouri River upstream approximately 12.5 miles, and is wholly within the Corporate limits of Kansas City, Missouri. However, 55% of the drainage area lies within the State of Kansas. Continuing development of areas in the Blue River Basin is increasing both flood frequency and flood heights in the entire Blue River Basin and Valley areas.

From an economic standpoint, the U.S. Army Corps of Engineers and the City Administrators of Kansas City, Missouri agree on the benefits of these projects. Benefits are calculated to be approximately twice the cost. In 1983, it was estimated that the average annual flood damages would be reduced from $24,4000,000 to $7,200,000. I'm sure these numbers could be raised easily by an inflation factor of 25% to 30%.

There are over 1,000 businesses having over 30,000 employees in the Blue River Valley that could be damaged by a major flood. The damage would be devastating to the businesses, their employees, and the Kansas City economy. The only possible way to alleviate our flooding is to finish the Blue River Channel Project.

We of the Blue Valley Association are committed to working with the U.S. Army Corps of Engineers and the Administrators of the City of Kansas City, Missouri toward the completion of this flood control project. Our association was founded in April of 1920 and has continued to strive toward its stated objective to develop the welfare of the Blue Valley District of Kansas City, Missouri, its' industries, its' real estate, its' merchants, and its' homes, and to contribute to the protection, development and extensions of those interests in all lawful ways.

The last economic impact study done by the Blue Valley Association showed that its members had a collective payroll of over 322,000,000 dollars and paid over 3.300,000 dollars in local taxes per year.

It is for these businesses, employees, and home owners that we strongly encourage your continued support of these projects by your favorable consideration of these budget requests. We also strongly encourage your support of all the projects presented today by the Missouri-Arkansas River Basins Association representatives.

STATEMENT OF THE COUNTRY CLUB PLAZA MERCHANT'S ASSOCIATION

As Executive Director of the Country Club Plaza Merchant's Association, I represent a group of small to larger merchants, many of which are individually and locally owned businesses. On September 12, 1977 an unexpected and devastating flood roared through this shopping area. The physical damage and business loss experienced by the Plaza merchants exceeded 58 million dollars.

Since the flood, local interests, both public and private, in cooperation with the Corps of Engineers have sponsered and promoted the Brush Creek Flood Control Project. Design work has been completed, and we understand the final plans and specifications are almost complete.

We are disturbed to hear that some plan modifications now require the project to be reauthorized by Congress. We were further alarmed to hear that the Brush Creek Project was not included in the proposed budget as a "new start" for construction in Fiscal Year '91.

This project is most-important to us because it affects our livelihood. This project affects the Country Club Plaza and because of the importance of the Plaza to the Kansas City Metropolitan area, the project is most important to the area at-large.

We continue to support the proposed Brush Creek Flood Control Project. We pray that the project can be reauthorized by Congress and that it can be added to the proposed budget for Fiscal Year '91.

Thank you for your past support of this project and urge you to favorably consider the reauthorization and the continuing funding of the Brush Creek Project.

STATEMENT OF KANSAS CITY, MO

My name is George Satterlee, Director of Public Works of Kansas City, Missouri. I am here today on behalf of the City in support of its four flood control projects, and to emphasize one of those projects in particular.

Mayor Cleaver earlier testified concerning funding for the four flood control projects. I call your attention to the Brush Creek project and to request the inclusion of funding for a new start in Fiscal 1991.

Kansas City, Missouri has taken bids and is now preparing to contract for the demolition and replacement of the Rockhill Road Bridge over Brush Creek. Construction is scheduled to begin in about 45 days for this $2.5 million bridge replacement to accommodate the Brush Creek flood control project. Mayor Cleaver and the City Council have used innovative funding methods in making City monies available for this project. Our citizens will feel great disappointment should the flood control project not take place when the new Rockhill Road bridge is ready to receive a widened and deepened Brush Creek channel a year from now.

A new start for Brush Creek only requires $1,242,000 in federal funds in the FY 1991 budget. We ask your assistance in keeping our partnership alive and well by including such a commitment in your budget recommendation.

SUBCOMMITTEE RECESS

Senator **Johnston**. Thank you very much. We will stand in recess until 2 p.m.

[Whereupon, at 11:49 a.m., the subcommittee was recessed, to reconvene at 2:30 p.m. the same day.]

(AFTERNOON SESSION, 2:30 P.M., TUESDAY, MARCH 27, 1990)

NONDEPARTMENTAL WITNESSES

HEARING PROCEDURE

Senator **DECONCINI** [presiding]. The subcommittee will come to order. I welcome all of the visitors here and the witnesses. We have a large number of witnesses that we are trying to get through today. We want to be sure that everybody has time to express their views. So your full statements will be inserted in the record, and we ask that each witness show some self-restraint to hold their testimony to as short a time as possible.

We are pleased to have the senior Senator from Alabama, Senator Heflin here, he has a number of projects, and Senator Shelby is supposed to be coming by, and we will start with you, Senator Heflin.

ALABAMA WATER RESOURCE PROJECTS

STATEMENT OF HON. HOWELL T. HEFLIN, U.S. SENATOR FROM ALABAMA

Senator **HEFLIN**. Thank you, Mr. Chairman. We have a number of Alabamians that are here today to encourage the continued development of Alabama waterways. I have written statements dealing with the Coosa-Alabama, the Mobile Harbor, the Warrior-Tombigbee, the Apalachicola-Chattahoochee-Flint Waterway, and the Tennessee-Tombigbee Waterway Development Authority, as well as some other matters that would be before the committee.

ATLANTA METRO AREA WATER SUPPLY STUDY

There are one or two things I would like to particularly point out, separate from my written testimony, and one deals with the water problems that are affecting Georgia and Alabama. This is cause for consideration for water allocations to meet the growing needs of the Atlanta metropolitan area as well as Rome and some other areas in Georgia.

If they take that water, it means the potential for hydro-created electricity will be a problem in Alabama as well as other uses of water, and Congressman Tom Bevill has made a request that the Corps develop plans for a 4-year water resource study for two of the river basins involved.

The reallocation proposal is now essentially on hold for 3 years, but negotiations are continuing. One of the aims of the Corps is to work with Alabama, Florida, and Georgia to develop a framework to resolve disputes over water rights in the Chattahoochee and the Coosa River basins before they become so severe that reasonable negotiations are difficult.

While we have this time, I would encourage the respective States to continue their efforts to establish a permanent mechanism for the settlement of future allocation proposals so that the collective rights of all users are protected. A federally chartered tristate water compact similar to the Tennessee Tombigbee Waterway Authority would be a model to follow in these efforts.

RECENT SOUTHEAST FLOODING

In addition to this, I would like to point out that Alabama has recently been the victim of a great deal of flooding. Senator Shelby and I met yesterday with the Assistant Secretary of the Army for Civil Works who has charge of the Corps of Engineers and have asked him to view the areas that were flooded and to come up with some suggestions as to how these problems can be solved.

We had levees that broke, we had flooding in a lot of places. There was even flooding in and around Selma in which graves and caskets came up from the ground, up into the water.

So, there are some problems that we will be faced with in the future pertaining to the flooding that took place, and hopefully we can come up with solutions after the Corps of Engineers will make recommendations, particularly pertaining to the Pea River and in regards to the Coosa-Alabama Waterway which also experienced a great deal of flooding at that time.

I ask that my full statement be incorporated into the record.

Senator DeConcini. Senator Heflin, your full statement will be in the record.

[The statement follows:]

Statement of Senator Howell Heflin

ALABAMA WATERWAY PROJECTS

Mr. Chairman, as you and the other members of this committee know, I have a deep and abiding interest in the development of the waterway resources in Alabama and our nation. I appreciate the opportunity to appear before you today and join with spokesmen from the Alabama River Development Associations in support of funds for the continued and orderly development of water resources in Alabama.

Because of our crowded agenda, my remarks will be brief. It will be much more beneficial to this committee to receive the views and recommendations of those here today from the Alabama Waterway Development Authorities who have traveled here to present their cases to you on behalf of their respective waterway systems. This group is dedicated to the principle that the citizens of Alabama and the nation will realize and benefit from the continuing developmental potential of Alabama's rivers and other water resources. I warmly commend their testimonies to you.

Mr. Chairman, water is our state's richest and most abundant natural resource. In fact, Alabama is blessed with more miles of navigable waterways than any other state in the nation.

As this committee is well aware, inland waterways are a vital component of America's transportation infrastructure. The availability of the efficient and reliable barge service is extremely important to the viability of key sectors of the U.S. economy and certainly the economy of Alabama. The economic livelihood of certain geographical areas may well depend on transportation efficiencies which only waterways can offer in delivery of raw and vital materials, access to distant markets, economies of scale and/or water compelled freight rates. For all of these reasons and more, there is clearly a broad public interest in the inland waterway systems which justifies the request for continued federal participation.

All of the projects for which we are seeking funds will serve several purposes at once; namely, better economic opportunities, more recreational opportunities, more jobs and a better standard of living. Indeed, the overall quality of life in our state and elsewhere will be enhanced if we fund these projects and bring them to complete fruition.

I would like to make another important point. Rail rates on grain from the Midwest continue to be lower since the opening of the Tennessee-Tombigbee Waterway. Waterways provide a competitive alternative for shippers. Not only that, waterways provide efficient transportation productivity which lowers inflation and tends to ease upward pressure on the deficit. That is why we must support and improve our waterways as an important investment in America.

There is one other area I would like to address.

Recent proposals for water reallocation by the Army Corps of Engineers to serve the growing needs of the Atlanta metropolitan area have aroused considerable concern from the downstream users of the affected water systems. At the request of Congressman Tom Bevill, the Corps has developed plans for a four-year water resources study for two of the river basins involved. The reallocation proposal is now essentially on hold for three years, but negotiations are continuing. One of the aims of the Corps is to work with Alabama, Florida and Georgia to develop a framework to resolve disputes over water rights in the Chattahoochee and Coosa River basins before they become so severe that reasonable negotiations are difficult. While we have this time, I encourage respective states to continue their efforts to establish a permanent mechanism for the settlement of future allocation proposals so that the collective rights of all users are protected. A federal chartered tri-state water compact similar to the Tennessee-Tombigbee Waterway Authority would be a model to follow in these efforts.

I am most grateful to this committee for its interest in the full development of the water resources in Alabama. In Alabama, there have been billions of dollars in non-federal, water-related developments over the past five years. Along the Tennessee-Tombigbee Waterway regional corridor, private investment has exceeded $2 billion since its dedication. This is evidence that the federal funds allocated by this committee are surely true investments. With your continued help, the developments will return rich dividends to our citizens and will confirm the faith and high expectations of this committee.

COOSA-ALABAMA WATERWAY AND MOBILE HARBOR

Mr. Chairman, thank you for this opportunity to again appear before this committee on behalf of funds for the Coosa-Alabama Waterway and Mobile Harbor.

Again, because of your crowded agenda, my remarks will be brief. I hope you will give every consideration to the requests today from the members of the Coosa-Alabama Waterway.

The Coosa-Alabama River Improvement Association has three main objectives: (1) Maintaining the Alabama River as a viable waterway; (2) Continuing the deepening of the Mobile Harbor to accommodate the largest ocean-going vessels, and: (3) Opening the Coosa River for navigation. To accomplish these objectives, I support the association's request for $33,193,000 for FY1991, which includes operations and maintenance and construction.

Mr. Chairman, I would like to take some time today to discuss the status of the following projects:

(1) Lower Alabama Rehabilitation Project—The project is nearing completion. Lowering the dredge reference profile and the rock removal (135,000 cubic yards) are complete. Phase I of the training dike work (Mile 9 and 42) is complete. Phase II (Mile 43 and 49) should be complete by June, 1990. Phase III is now out for bid.

(2) Deepening of Mobile Harbor—Although the scheduled completion date is May, 1990, the dredging is forecast to be completed prior to that time. Presently, the project is 98 percent complete.

(3) The update on the Coosa River Navigation project requested two years ago is nearing completion and is expected in May, 1990.

Mr. Chairman, I urge you and the other members of the committee to approve the requests presented today by the Coosa-Alabama River Improvement Association.

WARRIOR-TOMBIGBEE WATERWAY

Mr. Chairman, I would like to thank you for this opportunity to again appear before the committee on behalf of funds for the Warrior-Tombigbee Waterway.

It is my understanding that under the appropriations items for Operations & Maintenance the Corps has been permitted to include in its budget request only $9,300,000.

Mr. Chairman, the $9.3 million will not cover minimum day-to-day operations, and will not support an on-going program to correct long-standing deficiencies. For example, I understand that there are actions which have been going on incrementally for several years, designed to increase the efficiency of dredge material disposal and reduce recurring shoaling. Without additional funds, these actions would have to be deferred or even terminated. Orderly continuation of these projects is essential to ensure the efficiency and reliability of the waterway, and this will surely reduce future maintenance costs.

Mr. Chairman, those at the Warrior-Tombigbee Development Association feel that this need is at least the amount expended in 1989 and 1990, which should be $13.4 million, but they feel that the Corps will not be permitted to ask for the full amount needed. I would like to show my support, for the record, for sufficient Additional Capability funding to permit the orderly and efficient continuation of on-going channel efficiency projects.

The importance of these projects, Mr. Chairman, was demonstrated vividly during the summer of 1988, when drought conditions on the Mississippi River resulted in tonnage being more than double any prior experience on the Warrior Tombigbee Waterway between Demopolis and Mobile. The flood conditions which occurred in 1989 and early 1990 will cause shoaling and channel work, clearly requiring the funding level I am requesting.

The second appropriation item which I would like to support today is a request for $5.5 million for the new Oliver Lock. This amount, although substantially lower than the prior year, will support the orderly and timely continuation of contracts and the accompanying work to replace the one remaining substandard lock on the Warrior-Tombigbee Waterway. Appropriations of the full $2.75 million is essential as the amount will be matched with $2.75 million from the Inland Waterways Trust Fund to provide the total $5.5 million required for FY1991. At this time, construction progress is excellent, and with this funding, we expect the progress to continue, and to begin to use the new lock late in 1991, with final project completion some 15 to 18 months later.

Ironically, Mr. Chairman, the Oliver Lock and Dam was the first structure constructed under the Modernization Program which contemplated the construction of 5 new locks and dams to replace the original system of 17 dams and 18 locks with the exception of the uppermost structure in the system, namely, the John Hollis Bankhead Lock and Dam. Time and progress, however, have made the Oliver Lock obsolete as evidenced by the chronic barge congestion at the lock whose dimensions are only 95ft X 460ft. A new lock with standard dimensions is urgently needed if traffic on this busy river system is to continue unimpeded.

I urge the committee to approve the request that I and members of the Warrior-Tombigbee Development Association have set forth today.

APALACHICOLA-CHATTAHOOCHEE-FLINT WATERWAY

Mr. Chairman, today I would like to respectfully request that you appropriate the funds requested in the President's budget for the Operation and Maintenance of four multi-purpose dams on the Apalachicola-Chattahoochee-Flint (ACF) Waterway system, including the following:

Jim Woodruff Lock, Dam and Lake Seminole, $4,169,000; Buford Lock, Dam and Lake Sidney Lanier, $5,707,000; Walter F. George Lock, Dam and Lake, $5,460,000; and West Point Dam and Lake, $4,908,000.

A continuation of the Operation and Maintenance funding for the Apalachicola-Chattahoochee-Flint Inland Waterway and river system is vital. Without this funding, navigation on the inland water system is not fully operational.

George Andrews Lock and Dam, $3,776,000.

As you will hear in the testimony given today by Phillip Hornsby, President of the Tri-Rivers System, there are six public ports along the ACF Waterway representing an investment of more than $15 million. Moreover, there are millions of additional dollars invested in private facilities and industrial operations. Continued increases in commercial tonnage are expected with growth projected in the 20–30 percent range.

I hope you will give every consideration possible to the requests today of those who are here to represent the Tri-Rivers System, including Mr. Phillip Hornsby.

TENNESSEE-TOMBIGBEE WATERWAY DEVELOP AUTHORITY

Mr. Chairman, I am pleased to say that 1989 was another year of confirmation for the development of the Tennessee-Tombigbee Waterway. Commerce has now exceeded 25 million tons, since the 1985 dedication. Private investment exceeds $2 billion in the multi-state Tenn-Tom corridor and will show another significant increase of over $500 million with the completion of the NASA Advanced Solid Rocket Motor facility at Yellow Creek. The ground breaking of this facility will be April 10, 1990.

Not only that, Mr. Chairman, the Tenn-Tom received national recognition as a viable route between the deepwater ports along the Gulf and mid-American during the 1988 summer drought. The TVA system also was recognized in 1988 when the Tennessee River was able to provide a guaranteed flow of 18,000 cubic feet per second to the lower Mississippi, and this resulted in a 3-foot stage increase at Cairo, Illinois.

Many companies are discovering the benefits of using the water system of the Tenn-Tom for movements of northbound commerce. These companies are realizing the savings from shipping by water instead of using other methods of transport.

Mr. Chairman, while much progress has been made on the Tenn-Tom, there is still more to do. Some counties within the Tenn-Tom Corridor have not yet enjoyed the economic opportunities offered by the waterway. Appropriations for FY 1990 were $19.7 million, but it appears, at this time, that only $13.4 million of these funds have been made available for Operations and Maintenance. A request of $14.4 million is expected. I urge the committee to insure that our investment be protected with adequate O&M funds. FY 1990 funds should be restored to $19.7 and for FY 1991, I request that same level of funding.

The states of Alabama, Mississippi, Kentucky and Tennessee have joined the Authority to initiate an economic development strategy for these counties. This strategy will focus on assisting about 50 counties in the four states to improve their economic well-being.

Mr. Chairman, I would like to respectfully request that this committee continue to fund the TVA and ARC development programs at or above this year's level. Under the Wildlife Mitigation Program for wetlands acquisition, I support the $20 million request for the purchase of wetlands from willing sellers as negotiated by the Corps.

Those testifying here today from the Tennessee- Tombigbee Waterway have other requests as well. I hope you will give these requests every consideration.

Thank you, Mr. Chairman.

STATEMENT OF HON. RICHARD C. SHELBY, U.S. SENATOR FROM ALABAMA

Senator DeConcini. I take it what you are asking for is for some evaluation money for the Corps on these flood control projects?

Senator Heflin. It may well be that they will come up with something more of a permanent nature. We will be hearing from them fairly soon in regards to that flood area.

Senator DeConcini. Well, the committee will certainly keep that in mind, and before we mark up the bill, and your testimony is very helpful to the committee and will have great influence.

Senator Shelby, we are glad to have you here.

Senator Shelby. Thank you. Mr. Chairman, I have prepared testimony that my legislative assistant think has already given to the committee that I would like to be made part of the record.

Senator DeConcini. It will be part of the record.

Senator Shelby. I would first like to start out by thanking you and members of this committee for the help that you have given not only to the people of Alabama, but I especially want to recognize that in the past and throughout the country flood control, the navigability of the rivers, water for your area out West, all of these things are so interrelated and so important.

I know you and members of this committee have been in the leadership, have been there when we have needed help in the past, and we need it now. We need it, Mr. Chairman, as you well know, to finish some projects that are under construction.

As Senator Heflin said, we are just coming out of some areas where we have been devastated, that are disaster areas now, and there are some studies going on. I do not want to repeat everything he said, but we are probably going to need some help there.

But you have been generous in the past, other people in the committee, and we want you to continue to help us and we are going to support projects that have merit, as you have recommended in the past, all over the country.

I thank you for letting me appear.

Senator DECONCINI. Senator Shelby, thank you. Let me say for the record, you and Senator Heflin have been strong supporters for Corps projects not only in your State, in neighboring States, but all across the country, and you certainly have impressed this committee with your willingness to invest in America, not just solely in your own State——

Senator SHELBY. That is right. Well, it is a national project.

Senator DECONCINI. And this committee will continue to work with you and we welcome your statement. It will appear in the record, and we thank you for being here today.

Senator SHELBY. Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF SENATOR RICHARD SHELBY

COOSA-ALABAMA RIVER SYSTEM

Mr. Chairman, I appreciate this opportunity to offer testimony on behalf of the Coosa-Alabama River system.

The Coosa-Alabama River Improvement Association has requested fiscal year 1991 funding for continued operation and maintenance of the Waterway. I support this request so that the following specific needs may be met: (1) continued timely dredging and appropriate maintenance for the Alabama River Channel below Claiborne; (2) resumption of design and engineering work on the Coosa Project, which was suspended in 1983; (3) continued federal maintenance and operation of the Alabama River waterway from Mobile to Montgomery; (4) Continued operation and maintenance of the upstream reservoirs and hydropower plants at Allatoona and Carters Lake in Georgia.

Though the Association has been successful in past endeavors, the challenges of the future are upon us. I believe the Alabama-Coosa Waterway system is a solid investment in future productivity and economic progress. Extensive commitments to private investment on navigable waterways have been made on the assumption that federal maintenance and operation of the waterways would continue. I pledge my continued support for this important project which holds such promise of economic benefit.

Thank you Mr. Chairman for this opportunity to offer testimony to this distinguished subcommittee on behalf of the Coosa-Alabama River System. I urge you to continue full funding for the project.

WARRIOR-TOMBIGBEE WATERWAY SYSTEM

Mr. Chairman, I appreciate the opportunity to appear before you today on behalf of Alabama's Warrior-Tombigbee Waterway System.

Efficient and reliable transportation of freight on our nation's inland and intracoastal waterways is of growing importance to America's economy. Navigable waterways now directly serve 41 states, representing more than 90 percent of this country's population. The growing reliability of barge transportation, which is ideally suited to high-tonnage shipments of bulk commodities and fuels, is only one facet of the importance of these waterways.

Several thousand farmers from more than twenty Alabama and Mississippi counties ship their grain via the Waterway to the Port of Mobile for export. Other commodities moving through the Warrior-Tombigbee include coal, steel, wood products and various ores, crude and fuel oils, chemicals and aggregates. Thousands of Alabama jobs are provided in the mining, manufacturing, processing, construction and farming enterprises which are so heavily dependent upon Waterway transportation.

The fiscal year 1991 operations and maintenance budget request made by the Corps of Engineers for the Warrior-Tombigbee is $9.3 million. Mr. Chairman, it has been brought to my attention that the $9.3 million request will neither cover day-to-day operations nor will it support an on-going program to correct long-standing deficiencies. For example, there have been incremental actions for several years which are designed to increase the efficiency of dredge material disposal and reduce recurring shoaling. Without additional funds, these activities would have to be deferred or possible terminated. Orderly continuation of these projects is essential to ensure the efficiency and reliability of the waterway. I ask your consideration of an additional $4 million in capability O&M funding to ensure that the FY 1991 O&M program will be allotted at least the same amounts expended in 1989 and 1990.

A second appropriation item for fiscal year 1991 is for new construction. The Corps has requested $5.5 million for the new Oliver Lock. This amount will support the orderly and timely continuation of contracts and the accompanying work to replace this one remaining substandard lock on the Warrior-Tombigbee Waterway. Appropriation of the full $2.75 million is essential as this amount will be matched with $2.75 million from the Inland Waterways Trust Fund to provide the total $5.5 million required for fiscal year 1991.

I thank you Mr. Chairman for the opportunity to appear before this distinguished committee on behalf of the Warrior-Tombigbee Waterway System. The Waterway is of utmost economic value to Alabama and continues to gain status in the eyes of the rest of the nation. I urge the committee to continue full funding for the Warrior-Tombigbee Waterway project.

ADDITIONAL PREPARED STATEMENTS SUBMITTED BY MEMBERS OF CONGRESS

Senator DeConcini. We have also received prepared statements for Congressman Callahan of Alabama, and from Congressman Natcher and Senator Ford of Kentucky.

Without objection, those statements will be made part of the hearing record.

[The statements follow:]

STATEMENT OF U.S. REPRESENTATIVE SONNY CALLAHAN

Mr. Chairman, I am pleased to have this opportunity to submit my request for fiscal year 1991 funding of water resources development projects in the First Congressional District of Alabama and in other parts of the state and region.

The Bayou La Batre channel deepening project is of particular interest to me, and I urge the committee to approve the Corps' recommendation for $347,000 to complete the preconstruction, engineering and design phase of the project. The small community of Bayou La Batre is a major seafood center and has more recently become a critical site for offshore natural gas development. The natural gas reserves in Mobile Bay and offshore of our coastline are projected to be some of the largest fields discovered in the United States in recent years. Related activities have centered in Bayou La Batre which is, unfortunately, not well-equipped to handle shipping traffic. Better access is critical, and the channel deepening project will facilitate this activity for the benefit of the entire State of Alabama.

The President has requested $30,000 in fiscal year 1991 to complete the reconnaissance survey for the deepening of Chickasaw Creek. The Port of Chickasaw is a segment of the Mobile Harbor project which provides a 25-foot channel into Chickasaw Creek. There is a need to deepen the channel to 35 feet for three miles and the study will help us learn if this project will be feasible. I hope the committee will be able to provide $30,000 to complete the survey process.

Mr. Chairman, I am deeply interested in the Tennessee-Tombigbee Wildlife Mitigation program. This program differs from a typical Corps of Engineers mitigation project in two key ways. First, it directs that property may be purchased only from willing sellers. Currently, 18,000 acres are available from willing sellers in the Mobile-Tensaw River delta. Second, the program would be administered by state officials. I was very gratified that the President endorsed this program by requesting $20 million for the acquisition of property in Alabama and Mississippi. This mitigation plan is strongly supported by Alabama Governor Guy Hunt and Alabama wildlife and conservation officials, by sportsmen, and by environmental groups. I request that the committee appropriate $20 million as the President proposed.

Several major construction projects are scheduled for continued funding in fiscal year 1991 and I urge the committee to approve the Corps budget requests for them. The Three Mile Creek flood control project in Mobile is extremely important to the residents of Mobile as the recent floods in our state have underscored. I hope the committee will support the $4 million request to continue this project's construction. I also support the $5.5 million request for construction of the Oliver Lock and Dam. Navigation improvements on the Black Warrior and Tombigbee System in the vicinity of Jackson, Alabama, are necessary. The Administration has requested $95,000 for this purpose, and I trust this amount will be approved.

The First Congressional District of Alabama is blessed with abundant water resources which support the livelihood of thousands of families and provide recreational benefits to our residents and visitors. Maintenance of these waterways is critical to the movement of commodities and enhances our efforts to reduce the United States trade deficit. I strongly encourage the committee to favorably consider the following requests for operation and maintenance funding for these and other projects in the State of Alabama:

Mobile Harbor: $20,806,000
Gulf Intracoastal Waterway: $7,539,000
Alabama-Coosa River System: $8,981,000
Black Warrior and Tombigbee Rivers: $22,982,000
Dauphin Island Bay: $541,000
Henry Lock and Dam: $3,727,000
Millers Ferry Lock and Dam: $6,607,000
Bayou La Batre: $679,000
Dog and Fowl Rivers: $429,000
Bayou Coden: $368,000
Perdido Pass Channel: $1,376,000
Tennessee-Tombigbee Waterway: $21,026,000

Again, I am pleased to have the chance to make my interests known. I commend the Chairman and subcommittee members for the fine work they perform for this nation and for the service I am confident they will continue to provide.

STATEMENT OF U.S. REPRESENTATIVE WILLIAM H. NATCHER

MR. CHAIRMAN, we appreciate the opportunity to appear at this time in behalf of projects in Kentucky. You and our other friends on this Subcommittee, along with your staff, have heard us say on many occasions that Kentucky has more miles of navigable streams than any other state in our country with the exception of one, and all down through the years we have suffered damages from floods and loss of lives. Again this year we suffered flooding in the section of Kentucky that I represent and although no lives were lost, several million dollars in damages resulted.

As you know, the Salt River Basin Study was authorized in the year 1964 and as a result of this Study, three projects were recommended. These projects were Taylorsville Reservoir, Camp Ground Reservoir, and Howardstown Reservoir. The Taylorsville Reservoir has been completed and over $800,000 expended for studies on the Camp Ground Reservoir. Two Governors in Kentucky refused to enter into agreements with the Corps of Engineers on the Camp Ground and the Howardstown Reservoirs. Our present Governor is very much concerned about the Camp Ground Reservoir and is committed to participate in the construction of this Reservoir or in projects which will alleviate the flooding in the section where the Camp Ground Reservoir would be located. In the current 1990 Fiscal Year budget we have $175,000 for general investigation of the Salt River Basin.

MR. CHAIRMAN, the budget now before your committee for the Salt River Basin, Kentucky investigation contains $225,000 for surveys and I respectfully request that this amount be approved.

In the current 1990 Fiscal Year budget you approved the sum of $1,500,000 for the Taylorsville Lake, Kentucky project. This money was to be used for the Possum Ridge ramp section and was the federal share for facilities and recreation. The Commonwealth of Kentucky is committed for its one-half share of the total cost of this project. Up to this time, Kentucky has not appropriated its share, so Mr. Chairman, I respectfully request that by language in your Report, or in the manner you desire, this $1,500,000 be continued over into the 1991 Fiscal Year budget. I am now assured that the State of Kentucky will come forward with its share as provided for by law.

MR. CHAIRMAN, in the current Fiscal Year budget for 1990, your committee approved the sum of $200,000 for investigation of the Green and Barren Rivers, Kentucky. This investigation is now underway and if additional funding can be used, I will appreciate it if it is incorporated in your budget for Fiscal Year 1991.

I respectfully request that the projects and funding set forth in the budget for Fiscal Year 1991 for Kentucky be approved. I join all of my colleagues from Kentucky in the House and in the Senate in their requests for our state and their districts.

MR. CHAIRMAN, you and the members of your Subcommittee have always been good to us and we appreciate it. We want to thank you for permitting us to appear at this time in behalf of our projects.

STATEMENT OF SENATOR FORD

Dear Mr. ~~Chairman:~~ Bennett:

I am writing in support of Kentucky's civil works projects for Fiscal Year 1991.

While I am strongly in favor of all requested Kentucky appropriations, I would like to single out for comment areas of greatest concern to me.

LOCKS AND DAMS 52 AND 53

Last year the Committees on Appropriations appropriated $3.8 million for continued planning and engineering for the Locks and Dams 52 and 53 replacement facility at Olmsted, Illinois. I am grateful for that. This year the budget request is for $3.532 million, again for PED, but an additional $400,000 is urgently needed to enable the Corps of Engineers to begin real estate acquisition.

You are aware of the importance of this project to barge traffic on the Ohio River system. In fact, the replacement facility is in an area that is the hub of our inland waterways -- the waterborne traffic of 26 states passes through the region. Forty percent of all traffic on the Ohio River system currently utilizes these aging locks.

The existing locks are neither structurally sound nor can they handle the projected levels of traffic, yet the Corps has estimated that traffic in the Olmsted area will grow nearly 40% faster than on the inland navigation system as a whole. Operation and maintenance of the 100-year old technology that was used on these 60-year old facilities is dangerous, time consuming and not at all cost-effective.

It is estimated that $27 million would be needed to keep Locks and Dams 52 and 53 operative over the next few decades. Rather than having to spend even a portion of this money, we should earmark as much as possible to expedite completion of the project. In this regard, I urge that full funding for PED be appropriated, along with an additional $400,000 for land acquisition. I might add that the Corps has the capability to absorb more than the requested $3.5 million for PED and could utilize up to $3 million more, if the subcommittee were so inclined.

MC ALPINE LOCKS AND DAM

The Corps of Engineers has requested $1 million for preconstruction engineering and design of a project that will modernize McAlpine Locks in Louisville. The McAlpine locks and dam system is a vital component of the Ohio River transportation system, as it sits between two major transportation centers -- Pittsburgh upriver and the Mississippi downriver. A bottleneck at this point would disrupt barge traffic from the steel mills of Pennsylvania to the coal mines and farms of Kentucky. These industries and much more depend on the Ohio River for their commerce.

The current 600 foot lock at McAlpine will be almost 80 years old by the end of the century. The proposed construction project would extend this lock to match its sister 1200 foot lock and generally modernize the facility, which is no longer able to accommodate the volume of traffic it faces these days. Delays are commonplace now and congestion in the harbor will become unmanageable unless the project goes forward.

KENTUCKY LOCK AND LOWER CUMBERLAND BENDWAY WORK

Kentucky Lock and Dam

Barge traffic at Kentucky Lock on the Tennessee River has reached a critical point. The lock is now at 90% capacity and tows are experiencing waiting periods ranging from four to 36 hours. The budget request contains $1.008 million to complete the general investigation for a second lock at Kentucky Lock and Dam. This project is important to the future viability of a significant portion of our inland waterway system and we need to start taking a look at it now.

Lower Cumberland River

Until the Kentucky Lock and Dam has been modernized, the only solution to the extreme congestion is to divert traffic to the lower Cumberland River. Unfortunately, the Cumberland cannot accomodate modern day 15-barge tows. The channel is narrow in some places and contains several 90-degree bends. Consequently, the Nashville District would like authority to widen the bendways at Miles 3 and 28, which are the most severe constraints to navigation on the lower Cumberland.

While the project is expected to cost $15 million over a period of five years, only $1 million is needed for FY91 with $3.5 million for each of the four years to follow. This sum would go toward initial engineering and design for bendway modification. Perhaps more imperative than the funding, however, is immediate authority to buy the real estate needed to straighten out the bendways.

The Commonwealth of Kentucky is supportive of this effort, as is the Kentucky and Tennessee barge industry. I sincerely hope the subcommittee will include funding for the bendway work in its FY91 bill, and give the Corps the authority to start with real estate acquisition.

HARLAN AND BARBOURVILLE FLOOD CONTROL PROJECTS

I can safely say that there is no Kentucky water project that is more in need of funding than those at Barbourville and Harlan. This subcommittee has been more than generous in the past, but funding is an issue again this year as, once more, the Administration has requested no money for either project.

It is my understanding that a total of $28 million is needed to proceed with these vital projects; I hope the subcommittee will be able to provide for them.

Barbourville

At Barbourville, $7.5 million is required to continue building the levee, award a second contract for the floodwall, and provide related non-structural protection. This amount is consistent with expressed capability for next year.

Harlan

Last year the Corps awarded a major diversion tunnel contract. Dirt has been turned, and the Corps is preparing for tunnel excavation. The tunnel project is central to providing flood control in Harlan, and $20.5 million is needed in FY91 to keep construction on schedule. If no additional funding is provided, the tunnel contract will have to be terminated. This is something that cannot be allowed to happen.

TENNESSEE VALLEY AUTHORITY

The Tennessee Valley Authority, a favorite target of the Reagan Administration, is also an object of cuts by the Bush Administration. TVA has suffered nine years of paralyzing budget proposals, including two years of zero budget requests. Thanks only to the intervention of this subcommittee, the agency is alive and well today. Under the FY91 request, TVA would receive $91.3 million, down from the $121 million appropriated by Congress last year. The net effect of such action would be the termination of TVA's valuable economic and rural development programs.

But closer to home for me is the effect such cuts will have on Land Between the Lakes, TVA's national recreation area. The new request cleanly and precisely eliminates LBL's operations budget, the very money so essential to keeping facilities open and operating for the public on a day-to-day basis. The FY91 request severs $2.3 million, money for the 50 to 60 people who operate LBL's recreation and education programs, and work to share the LBL experience with agencies across the country. The cut will do no less than close every visitor facility except for the campgrounds.

In an interesting wrinkle, while the proposed budget will cripple LBL for all uses but camping, it ensures that the closed facilities will be in good repair -- there is a $3 million increase in maintenance and improvement money. There is, therefore, the overall appearance of a healthy budget for LBL, but without manpower to operate the reservation, it is an empty promise.

I urge the subcommittee to restore full funding to the Tennessee Valley Authority.

APPALACHIAN REGIONAL COMMISSION

You have been asked by Dr. Lyman V. Ginger, Executive Director of Cardinal Hill Hospital in Lexington, Kentucky, to help establish a physical and medical rehabilitation project in Appalachia with Appalachian Regional Commission funds. His request for this extremely worthy cause is for a total cost of $9.2 million to purchase equipment and mobile units for, and remodel or construct ten satellite centers. Each center would provide outpatient treatment and services for persons who have suffered from a catastrophic event and who need special follow-on treatment. Care and treatment would be available to all of Appalachian Kentucky and parts of West Virginia, Ohio and Tennessee.

It is an innovative and low-budget way to provide badly-needed, non existent care to an almost neglected population, and I hope the subcommittee will be able to appropriate preliminary funding for it.

CENTRAL KENTUCKY FLOODING

Briefly, there are three non-controversial items in the budget request that I would like to single out because of their importance. Kentucky suffers from the extreme vagaries of Mother Nature; something must be done in Central Kentucky to defend against reoccurring flooding.

One such project, a long time in coming, is $152,000 for preconstruction engineering and design of the South Frankfort floodwall. The other two are reconnaissance studies, one of the Licking River -- $100,000; the other, of the Salt River Basin -- $225,000. Although modest in dollar amount, they mean much to the Commonwealth.

LOUISVILLE WATERFRONT PARK PROJECT

In the 100th Congress, $400,000 was appropriated to plan and design improvements on the Louisville waterfront. The Corps has now completed architectural and engineering work on the first phase of the project -- the Belvedere Connector.

Total investment in the project has thus far been $150 million. $3.8 million in non-Federal funding has been spent on the wharf area in particular, and now $3.5 million in federal money is being requested for construction of the connector.

The City of Louisville and Jefferson County have worked long and hard to revitalize this waterfront. It is an exciting endeavor, one that has garnered the support and enthusiastic participation of private, local, state and Federal entities. With the subcommittee's assent, this partnership will continue to flourish.

KENTUCKY RIVER LOCKS AND DAMS

The Corps of Engineers has determined that there is no longer a Federal interest in Locks and Dams 5 through 14 on the Kentucky River. Consequently, it is moving to divest itself of the structures, having signed a memorandum of understanding with the Commonwealth of Kentucky in 1985 and having secured authorization for such divestiture in the Water Development Act of 1986.

There is a serious problem here, and it is that, while there are no longer navigation and flood control benefits to be derived from the locks and dams, they now provide the water supply for 600,000 people in central Kentucky. Furthermore, the structures are in such a condition of disrepair that the Commonwealth will have to do instant repairs worth several millions of dollars just to keep the structures from falling into the water. If any of those pools is lost, the consequences for half a million people will be immediate and dire -- no water.

The memorandum of understanding clearly commits the Corps to performing major maintenance. It is obvious to the most casual observer that major maintenance has not been done. The Commonwealth of Kentucky has been forced to file suit against the Corps in U.S. District Court, and I introduced legislation to see that proper maintenance -- maintenance as set forth in a legal contract, the MOU, is performed prior to the orderly transition of Locks and Dams 5 through 14 from the Corps of Engineers to the Commonwealth of Kentucky.

The legislation has been incorporated by Senator Moynihan in the omnibus water projects authorization bill he introduced on February 27. Terming it "additional management guidance" that is "non-controversial and important for the continued operating effectiveness of the Corps," Mr. Moynihan asks for $3.5 million in order for the Corps to comply with the terms of the memorandum of understanding.

I respectfully and urgently ask that the subcommittee appropriate $3.5 million for the purpose of repairing the structures in question, and direct the Corps to use the money for that precise purpose. Background information is enclosed, including a copy of the memorandum of understanding and a rationale provided by the Commonwealth of Kentucky of the need for $3.5 million. Please do not hesitate to call me if further documentation is needed.

With deep appreciation for your interest in Kentucky, I am

LETTER FROM R.F. KNARR, COMMISSIONER, FRANKFORT, KY

February 23, 1990

Ms. Jane Matthias
Legislative Assistant
Office of U. S. Senator Wendall H. Ford
Senate Office Building
Washington, DC 20510

Dear Ms. Matthias:

In response to your recent request, I have attached a sheet listing the estimated costs of work that needs to be done immediately at Kentucky River Locks and Dams 5 through 14.

The costs are divided into three categories: major maintenance, routine maintenance, and safety and improvements. Under the terms of the Memorandum of Understanding, major maintenance is a Corps responsibility and routine maintenance is a State responsibility. The estimated costs are taken from page 1-7 of the attached Report by C. J. Fuller Consulting Engineers.

If you need additional information about the Locks and Dams, please let me know.

Sincerely,

R.F. Knarr

R. F. Knarr

KENTUCKY RIVER LOCKS & DAMS 5 - 14

The C. J. Fuller Consulting Engineers Report summarizes the costs for improvement items and major and routine maintenance as follows:

Lock & Dam	Major Maintenance	Routine Maintenance	Safety & Improvements	Total
5	$ 1,555,000	$ 2,760	$ 35,200	$ 1,592,960
6	881,250	2,240	132,600	1,016,090
7	90,000	10,730	35,600	136,330
8	130,000	1,635	254,050	385,685
TOTAL 5-8	$ 2,656,250	$ 17,365	$ 457,450	
9	$ 233,000	$ 38,970	$ 95,500	367,470
10	0	3,170	37,370	40,540
11	21,250	3,870	33,550	58,670
12	113,000	2,675	33,660	149,335
13	580,000	11,970	39,500	631,470
14	0	109,075	33,150	142,225
TOTAL 9-14	$ 947,250	$169,730	$ 272,730	
Total Project 5 thru 14	$ 3,603,500	$187,095	$ 730,180	$ 4,520,775

CHAPTER 1

FORWARD

The Kentucky River Lock and Dam System Numbers 5 thru 14 create that portion of the Kentucky River Navigational System no longer used primarily for commerce and whose Locks and Dams may soon be owned and maintained by the Commonwealth of Kentucky. Ownership responsibilities of this system may be transferred from the U.S. Army Corps of Engineers to the Commonwealth in accordance with a Memorandum of Understanding (M.O.U.) executed between the parties on the 22nd day of February 1985 and a subsequent agreement extending the Memorandum of Understanding one additional year to 15 October 1989.

Shortly after this Memorandum of Understanding was made the Commonwealth of Kentucky, Finance and Administration Cabinet, under Contract #P5863060 dated 24 September 1985, authorized production of a report entitled "Engineering Survey, Kentucky River Locks and Dams" by Daugherty & Trautwein, Inc. This report described in detail the condition of the Locks and Dams mentioned in the Memorandum of Understanding as well as rehabilitation costs for needed repairs, minor and major maintenance, historical information, Lock and Dam usage data; et cetera. In order to fully understand the study update which follows, reference must first be made to the 1985 study and the Memorandum of Understanding mentioned above.

This report, entitled "Kentucky River Study 1989 Update", is intended to update portions of the 1985 Study to show the current condition of the Locks and Dams Numbers 5 thru 14, conditions that may have changed since the 1985 survey as a result of natural wear and tear, maintenance operations or the lack thereof, any remedial construction of the facilities or the like. This study update will deal primarily with Lock and Dam Structures, their operational safety and the amount of "major maintenance" required to bring the facilities to a stable state of "operational adequacy or structural integrity" as defined in the Memorandum of Understanding. Recommendations for "routine maintenance", also defined by the Memorandum of Understanding will be made. Desirable safety features and other warranted improvements will be proposed. Excluded from this update are navigational system histories, usage studies, evaluations of accessory appurtenances, et cetera that were part of the 1985 Study. These items are not relevant to the Memorandum of Understanding; however, they were an essential part of the 1985 Studies' premise that the pools created by the Dams must be maintained in a "high state of repair" because of local water supplies and that "the Locks must also continue to be functional if for no other purpose than to facilitate movement of work barges for ongoing Dam repair and/or reconstruction". This survey update adopts this premise and assumes that no cost effective alternate access for dam maintenance was found in the 1985 Study. After adopting this premise this study update found no reason to disagree with or delay the dam replacement schedule proposed in the 1985 study; however, the major and routine maintenance, recommendations made herein merely identify work that should have taken place in the interim between the 1985 Study and Fall 1989 date of this update survey.

GENERAL ABSTRACT

The Kentucky River Survey 1989 Update is intended to revise and make current information found in the 1985 Survey entitled "Kentucky River Rehabilitation Study for Locks and Dams 5 through 14" concerning the operational safety and state of repair of the Locks and Dams. Recommendations for major maintenance will also be made based on the purpose of the Lock and Dam System stated in the 1985 Survey, primarily the perpetuation of the pools created by the system of Dams.

This survey will concentrate on the oldest four of the ten Locks and Dams studied. These Locks and Dams, numbers 5, 6, 7, and 8, vary in age from 148 to 90 years, however, the feature setting them apart from the rest of the system upstream is that the Dams are concrete caps and spillways founded on rock filled timber cribbing which has shown obvious and significant signs of failure. The Lock chambers are constructed of wet stone masonry. The auxiliary Dams at L/D #9 and 10 are also founded on timber cribbing (circa 1905); however, they have shown no significant signs of failure. The remaining Lock and Dam Numbers 9 thru 14 have been in existence since 1903 to 1917. The design of these structures is markedly different from those first described. These Locks and Dams are generally more stable concrete monoliths founded on bedrock.

Generally speaking, with the exception of Lock Number 12, the Lock and Dam Numbers 9 thru 14 are in much better overall condition than those four mentioned downstream.

The rehabilitation program called for in the 1985 Study has, to some small extent, been initiated by the Corps of Engineers as evidenced by the Corps of Engineers Work reports since 1985 and associated areas of improvement found during this study update. However, many areas of concern identified in the 1985 Study and in the update as "Failed" and in need of attention have not actually collapsed (i.e. failed catastrophically) and as a result have not been corrected by the Corps of Engineers as the Memorandum of Understanding requires.

The information gathered as a result of this study update generally supports the premise, conclusions and recommendations proposed by the 1985 Study. This update describes the status of existing conditions, clarifies or at least identifies the proposed major maintenance items remaining to be addressed with respect to the Memorandum of Understanding. and offers an estimated construction cost for each item.

Costs for improvement items and items of Major and Routine Maintenance, as defined in the Memorandum of Understanding and determined by this and the 1985 study, are summarized as follows:

Lock & Dam	Major Maintenance	Routine Maintenance	Safety & Improvements
5	$ 1,555,000	$ 2,760	$ 35,200
6	881,250	2,240	132,600
7	90,000	10,730	35,600
8	130,000	1,635	254,050
TOTAL 5-8	$ 2,656,250	$ 17,365	$ 457,450
9	$ 233,000	$ 38,970	$ 95,500
10	0	3,170	37,370
11	21,250	3,870	33,550
12	113,000	2,675	33,660
13	580,000	11,970	39,500
14	0	109,075	33,150
TOTAL 9-14	$ 947,250	$169,730	$ 272,730
Total Project 5 thru 14	$ 3,603,500	$187,095	$ 730,180

STATEMENT OF J.T. "TOM" McKENZIE, PRESIDENT, COOSA ALABAMA RIVER IMPROVEMENT ASSOCIATION, INC.

Senator DECONCINI. We will now here from Mr. Tom McKenzie, president of the Coosa-Alabama River Improvement Association.

Mr. McKenzie, your full statement will be put in the record, if you would like to summarize it for us.

Mr. MCKENZIE. Thank you, Mr. Chairman. We appreciate the opportunity to appear before you, and we do have a more lengthy statement. I will try to cover briefly some of the things that are in that without getting into too much detail.

As president of the Coosa-Alabama River Improvement Association, I do speak for a large group of citizens and businessmen, people whose every-day work is on the river, some elected officials—it is a broad range of people who have an interest in the economic growth of the region as well as the Nation. We appreciate very much your support that you have given us in the past.

Our request today will cover work on a waterway system, the Coosa-Alabama, which begins in northwest Georgia and comes diagonally across the State of Alabama and affects a lot of citizens and their businesses.

The specifics as far as funds required and so forth are covered in the written testimony. I will not go into that right now.

The lower Alabama rehabilitation project is drawing near completion. Phase 1 of the training dike program is complete, and phase 2 should be completed in June. Phase 3 is out for bid, so we certainly hope that that will be continued.

As you are no doubt aware, one of the major objectives of our association is the completion of the Coosa River navigation project, which would mean locks and the dams—the five dams on above Montgomery, so we could have navigation on that part of the river. It is not navigable at all at present.

We know that it may not be practical to do that at this time, but we want to make it clear that one of our main objectives is to keep that before you and when the time is right, perhaps we can get that done.

Ralph Clemens, our executive vice president, will mention some more about the water reallocation, so I will not get into that.

I will summarize some of those projects I was talking about. What we hope you will do is improve and maintain the Alabama River and in particular continue the rehabilitation project, as I mentioned, continue maintaining and deepening Mobile Harbor, and when the time is right open the Coosa for navigation all the way to Gadsden and into Rome, GA, and we feel like some changing some way or other in the Water Resource Redevelopment Act of 1986 would possibly be a help to our efforts.

Ralph, without me getting into any more of the detail, let me turn it over to you.

I appreciate what you do from day to day for this association and the rivers in Alabama.

[The statement follows:]

STATEMENT OF J.T. "TOM" MCKENZIE

Mr. Chairman and distinguished committee members, I am delighted to have this opportunity to share with you our appraisal of funds which should be included in the fiscal year 1991 energy and water development appropriations for the projects listed below. As the president of the association, I speak for a large and diverse group of private citizens and political and industrial organizations who see the continued development of the Coosa-Alabama Waterway as an opportunity for economic growth in our region as well as the nation.

Our membership reflects a broad range of callings and professions; each with a well-defined interest in waterway development. Some use the waterway now, either as shippers or tow operators. Others are businessmen, bankers and a variety of other private individuals who have a stake in future economic development for their firms and their successors to enjoy. Then there is a larger group of elected officials and their constituents typical of the twenty-three municipalities and nineteen counties along the water who are members of this association. These members are working diligently to develop our waterway into a productive part of the river infrastructure of the state and nation. Their efforts spring from a desire not only to improve the economic contribution of enhanced transportation available to users, but to provide a means of growth to benefit those who will follow in our footsteps.

Mr. Chairman, we thank you for the support your committee has given us in the past.

Tabulated below are our specific funding requests for fiscal year 1991. The projects we support are part of a waterway system that originates in northwest Georgia and flows diagonally across the state of Alabama to Mobile Harbor.

Operations and maintenance (O&M): Alabama-Coosa River, AL (includes 72 miles from the mouth of the Alabama River through Claiborne Lock and Dam up to Millers Ferry. The Coosa River is not included), $4,057,000 (Alabama River including Claiborne Lock and Dam); Millers Ferry Lock & Dam, AL, $4,233,000; Robert F. Henry Lock & Dam, AL, $3,352,000; Mobile Harbor and Port (incl. constr.), $13,401,000; Allatoona Lake, GA, $4,872,000; Carters Lake, GA, $3,278,000; total, $33,193,000.

Mr. Chairman, due in large measure to your efforts the lower Alabama rehabilitation project is rapidly nearing completion. Phase I of the training dike program is complete and phase II should be completed in June. Phase III is now out for bid. Actions involving lowering the dredge reference profile and rock removal are complete. Under normal conditions, the nine-foot channel availability will be increased to 88 percent, the eight-foot channel improves to 99 percent of the time and the seven-foot channel to 100. When these incremental improvements are demonstrated during low water season, the marketability of the Alabama will be significantly enhanced.

As you and your colleagues are aware, one of the association's major objectives is completion of the Coosa River navigation project. We both know the history of the attempt to establish the navigation channel between Montgomery, Gadsden and Rome, so I won't belabor the point. However, our members often ask how many industries, searching for viable location sites, have decided in favor of other areas simply due to the lack of inexpensive river transportation. If our interests truly lie in making American industry competitive on a worldwide basis, a specific aid would be to lower transportation costs. In doing this, government would recognize that waterways should be improved prior to business interests committing to multimillion dollar investments on undeveloped rivers. To believe that a strictly mathematical benefit/cost formula can be the only decision-making criterion used in developing water transportation networks ignores business common-sense and experience.

The events in Eastern Europe and Central America, coupled with mixed signals from the economy, pose a particularly difficult challenge to the administration and Congress this year. Coupled with the nation's deficit, we can appreciate the judgment that now may be the less appropriate time to press for the commencement of the project. The point must be made, however, that the channel remains high in the priority goals of the association.

In a like vein, the association membership, as well as other small tributary colleagues, have expressed concerns that the Water Resource Development Act of 1986 is nurturing a philosophy which may act to the disadvantage of rivers such as the Coosa. Developing and non-developed waterways are finding themselves in a no-win situation because of the substantial cost-sharing requirements found in the law. In states with a low industrial tax base, cost-sharing becomes a prohibitive requirement which virtually guarantees the death of even worthwhile water projects. In a similar vein, to ask large corporations to settle on rivers which "may" be developed in the future borders on poor judgment—a question that responsible industrial developers would probably never pose.

The dichotomy underlying the entire discussion is that under present rules, states and localities are being asked to insure the presence of large industries along their respective waterways so as to assure the Corps of Engineers of a substantial benefit-cost ratio before the project can even get off the ground.

Unless the Water Resource Development Act of 1986 is modified, areas of the country which are muddling along in economic mediocrity will simply remain that way, while those parts of the nation (and their waterways) which are thriving will grow more prosperous.

The concerns of our association center around the "rich get richer" aspect of the law; we believe that some appropriate fine tuning is in order. Accordingly, we feel that the following observations, in the form of proposed amendments, are worthy of extended debate and action by waterway interests as well as our representatives in the Congress. As part of our overall recommendations, the association suggests that Congress amend the Act of 1986:

A. To exempt non-developed and developing waterways from cost-sharing requirements until such time as tonnage and economic development pass a predetermined level.

B. To include section 140 of the Water Resource Development Act of 1976 which gave the Secretary of the Army authorization to use regional benefits in computing benefit-cost ratios, and

C. To develop a means by which the concerns and suggestions of small tributary users, shippers and associations may be formally introduced to and acted upon by the user's board.

As it completes one-hundred years of service to state and nation, the association enters the second century of existence with the knowledge that, while it has been successful in many of its endeavors, the challenges of the future remain. One of the most prominent issues facing us is the recent attempt, by the state of Georgia, to reallocate water from Carters Lake and Lake Allatoona (both in the Coosa-Alabama system) and Lake Lanier (ACF system) for use in the Atlanta region and northwest Georgia. A direct result of the association's action were the corps' public meetings in Alabama—meetings which expressed deeply felt concerns held by many Alabamians. We support your request to the Corps of Engineers for a detailed study of water needs of the tri-state area. History vividly demonstrates the non-productive efforts by the western states to secure adequate water supplies without a cooperative approach. The rampant growth of Los Angeles (very similar to that which we now witness in Atlanta) has caused anguish to water interests throughout the central and southern California area. It is not stretching the point to make the comparison between Los Angeles then and Atlanta now. Again, rampant, seemingly unplanned growth demands more and more of this precious Alabama resource, at Alabama's expense.

As we have stated so often previously, a tri-state compact is a correct first step in ameliorating the problem. Additionally, a reexamination of the Army's role in the reallocation of water (as found in the Water Supply Act of 1958) would be entirely appropriate. In the Southeast, water will become a scarcer resource as time goes by—a resource whose use should be put in the hands of the people through their representatives in Washington rather than a political appointee.

The men and women who join me in offering testimony today are leaders in their own right—a solid amalgam of professionals from industry and government as well as individuals who have had a lifelong desire to improve and maintain our great river. They know, intuitively, that the navigation channel to Rome is an essential ingredient to making our industry more competitive. The Tenn-Tom will pay its way, even with its modest start, and with the completion of the Coosa River navigation project, the state will be totally serviced by economical river transportation. Add to that the strong statements of support found in our package and you will find a broad cross section of Alabamians saying that they hope that you will lend your might and credibility to assure that the federal government will:

1. Improve and maintain the Alabama River, and, in particular, continue the rehabilitation project mentioned earlier.
2. Continue maintaining and deepening the Mobile Harbor.
3. Open the Coosa River for navigation to Gadsden, then Rome, Georgia.
4. Amend the Water Resource Development Act of 1986 as explained earlier in this statement.
5. Continue the effort to (1) accurately determine the availability and planned needs of Alabama and Southeastern water, (2) persuade, via legislation if necessary, Alabama, Georgia and Florida to form a compact as a forum to negotiate and multi-

laterally decide on the best course of action pertaining to water use and conservation, and (3) retain reallocation authority within the Congress, using the army as consultant and not decision-maker.

We appreciate the opportunity to speak before this subcommittee. We know that you will receive our requests with balance and consideration. Our members who have spent time and treasure to appear before you today represent hundreds of others who, given the opportunity, would do likewise in speaking out in favor of these vital projects. In closing, please accept our sincere appreciation for your superb support, not only on behalf of Alabama but the nation as a whole. Your attentiveness and concern in the past continues to give hope to those who have the vision to plan for the future. Thank you and good luck.

ATLANTA METRO AREA WATER SUPPLY STUDY

STATEMENT OF COL. RALPH CLEMENS, EXECUTIVE VICE PRESIDENT, COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION

Senator **DeConcini**. Mr. Clemens, do you have a statement?

Colonel **Clemens**. Yes sir; and it will be brief.

We appreciate your hospitality.

Senator **DeConcini**. It is good to have you here.

Colonel **Clemens**. The parallels that we see between the growth of Los Angeles and the attendant water needs, as well as the growth of Atlanta and their attendant water needs, are too striking just to let go by the wayside.

Concerns that we have are not that this reallocation issue is going to be one time. If it were, then we would probably say, "Well, we can live with that." But once that door is open, we can sense that it is going to open wider and wider with more disastrous effects on downstream activities.

The point that I would make, Senator, is that the Corps of Engineers has interpreted the Water Supply Act of 1958 as giving them authority to reallocate certain kinds of water storage. The association feels that this, especially since water in the Southeast is becoming more and more of rare commodity, we would think it probably prudent to revisit the act of 1958 with a view toward making that reallocation effort reside more and more into the representative of the people—that is, the Congress—as opposed to letting the functionary of the administration dole out river based on their own findings.

It is not a cheap shot against the Corps. We are very delighted with what they do for us. I think, though, that we would feel much more comfortable in having our representatives go to the States and say, "Look, we have got to get our act together, form this compact as Senator Heflin talked about, have some sort of a legislative umbrella over it, and just make it happen. Just make it happen." That is what we are really concerned about.

We deeply appreciate the work that you and your colleagues——

Senator **DeConcini**. What is the Corps doing now?

Colonel **Clemens**. What the Corps does now in certain projects is the Assistant Secretary of the Army has the authority to reallocate water storage capability.

Senator **DeConcini**. They are doing that?

Colonel **Clemens**. They are on the track of doing it. Right now, they are deterred. The point is that they were well on the way to doing it before, innocently enough our association went to a public meeting and asked that more public meetings be held in Alabama, otherwise no one would have ever known about it, quite frankly.

So that is what we are after. Water Supply Act of 1958, we are very much concerned, and whereas water used to be plentiful and available in the Southeast, there is going to be a time in the future when it may not be, and we want to have the mechanism in force so that we do not run into the same thing that you and your colleagues did in the West, displaced by some 60 years.

Senator DECONCINI. Mr. Clemens, have you taken this up with the authorizing committees?

Colonel CLEMENS. No sir; we have not, because this came upon us fairly rapidly in the short pass.

Senator DECONCINI. There is a bill, you know, being worked through on the authorizing committee. You might want to send your information to them as well.

Colonel CLEMENS. I understand, and I will do that. Thank you, senator.

Mr. MCKENZIE. Thank you very much.

Senator DECONCINI. Gentlemen, we have the supporting statements and resolutions which you have submitted in support of your request. We will make all of those part of the hearing record

I am going to take about a 7-minute recess here so I can run over and vote. If Mr. Dutton would like to come up, from the Alabama State Docks Department, we will take his testimony as soon as I return.

[A brief recess was taken.]

[The statements and resolutions referred to follow:]

COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION'S DELEGATION APPEARING BEFORE THE SENATE SUBCOMMITTEE ON APPROPRIATIONS FOR ENERGY AND WATER DEVELOPMENT HEARINGS ON MARCH 27, 1990

1. J. T. "Tom" McKenzie, Pres., CARI Association, Gadsden, AL
2. Walter B. Stevenson, ~~Jr., St. of~~ AL-ADECA, Montgomery, AL
3. Mayor Sue L. Glidewell, Rainbow City, Alabama
4. Colonel Ralph O. Clemens, Jr., EVP, CARI Assoc., Montgomery, AL
5. Judge Otha Lee Biggs, Monroe County, Monroeville, AL
6. ~~Sheldon L. Morgan, Sr. VP-First AL Bank,~~ Mobile, AL
7. John B. Dutton, Director, AL State Docks Department, Mobile, AL
8. Ada W. Paravicini, Adm. Asst., CARI Association, Montgomery, AL
9. Billy Ray Williams, Commissioner, Etowah County, Gadsden, AL
10. Roger C. Ellison, Engineer, Etowah County, Gadsden, AL
11. John L. McCarron, Pres. & CEO, Ryan-Walsh, Inc., Mobile, AL
12. Phillip A. Sanguinetti, Pres., The Anniston Star, Anniston, AL
13. Victor W. Cross, EVP, Gadsden-Etowah Cham. of Comm., Gadsden, AL
14. Marion M. Sanford, City Council, Wetumpka, AL
15. Velma Gober, CMC, City of Wetumpka, Wetumpka, AL
16. Catherine S. Sanford, City Council, Wetumpka, AL
17. Richard J. Dozier, Montgomery Marina, Montgomery, AL.
18. Chris D. Thomas, Businesswoman, Washington, D.C.

LIST OF STATEMENTS REQUESTING APPROPRIATIONS FOR FISCAL YEAR 1991 FOR PROJECTS ON THE ALABAMA-COOSA SYSTEM SUBMITTED FOR RECORD AND FILE OF THE SENATE SUBCOMMITTEE ON APPROPRIATIONS FOR ENERGY AND WATER DEVELOPMENT HEARINGS 2:00 P. M. MARCH 27, 1990

1. Coosa-Alabama River Improvement Association, Inc., Montgomery, AL
2. Honorable Guy Hunt, Governor-State of Alabama, Montgomery, AL
3. Alabama Power Co., Elmer B. Harris, Pres.& CEO, Birmingham, AL
4. Southern Company Services, Inc., P. G. Dawson, VP, Birmingham, AL
5. Alabama State Docks Department, J. B. Dutton, Dir., Mobile, AL
6. Mississippi Chemical Corporation, Yazoo City, Mississippi
7. Dravo Basic Materials Company, Inc., Mobile, AL
8. Parker Towing Company, Inc., Tuscaloosa, AL
9. City of Rome, John Bennett-City Manager, Rome, Georgia
10. Rome News-Tribune, Rome, Georgia
11. First Rome Bank, Rome, Georgia

12. The Georgia State Bank of Rome, Rome, Georgia
13. First Union National Bank of Georgia, Rome, Georgia
14. Rome Printing Company, Rome, Georgia
15. The Rockmart Journal, Rockmart, Georgia
16. Cherokee County Herald, Centre, Alabama
17. The Cedartown Standard, Cedartown, Georgia
18. Calhoun News, Calhoun, Georgia
19. News Publishing Company, Rome, Georgia
20. St. Clair County Commission, Ashville, Alabama
21. Ash Realty Company, Inc., Pell City, Alabama
22. The Anniston Star, Anniston, Alabama

LIST OF LETTERS AND RESOLUTIONS FOR SENATE SUBCOMMITTEE, MARCH 27, 1990

23. The Goodyear Tire & Rubber Company, Gadsden, Alabama
24. City of Rainbow City, Rainbow City, Alabama
25. J. T. Jordan Cotton, Inc., Centre, Alabama
26. Pawnee Air Care, Inc., Centre, Alabama
27. Cherokee Farmers Cooperative, Inc., Centre, AL
28. Thompson Tractor Company, Birmingham, Alabama
29. City of Wetumpka, Wetumpka, Alabama
30. Montgomery County Commission, Montgomery, AL
31. Union Bank & Trust Company, Montgomery, Alabama
32. Alabama Gas Corporation, Montgomery, AL
33. Montgomery Area Chamber of Commerce, Montgomery, AL
34. PH&J Architects, Inc., Montgomery, Alabama
35. Monroe County Commission, Monroeville, Alabama
36. Monroeville Area Chamber of Commerce, Monroeville, AL
37. Alabama River Pulp Company, Inc., Perdue Hill, AL
38. Alabama Electric Cooperative, Inc., Andalusia, Alabama
39. Alabama Tombigbee Regional Commission, Camden, Alabama
40. Robert M. Creswell, Consultant, Camden, Alabama
41. Cargill Marketing Company, Inc., Mobile, Alabama
42. First Alabama Bank of Mobile, Mobile, Alabama
43. Floyd County Board of Commissioners, Rome, Georgia
44. Koppers Industries, Inc., Montgomery, Alabama
45. Etowah County Commission, Gadsden, AL

STATEMENT OF GOV. GUY HUNT OF ALABAMA

Once again, it is a pleasure to join with the members and friends of the Coosa-Alabama River Improvement Association to participate before this Subcommittee in support of continued federal funding of the federal water resources projects on the Alabama and Coosa rivers.

The Association has been instrumental in the continued success of the inland waterways, not only the Alabama River waterway, but support of the national inland waterway system. The Association recently celebrated its 100th year of service in promoting the wise utilization of our important natural resources, especially the Alabama and Coosa rivers.

I support your consideration of the request of the Coosa-Alabama River Improvement Association. Specifically, we support the level of funding necessary to provide for the continued full operation and maintenance of the Alabama River navigation channel. We further join with the Association in requesting your consideration of regional development benefits as an appropriate evaluation criteria for federal support on inland waterways.

I would also suggest that your Subcommittee undertake an evaluation of the criteria being used by the Corps of Engineers under the Water Supply Act of 1958 for reallocation of federal reservoirs from the specific Congressional authorizations -- especially, the procedure to determine the "significance" of reallocations on project purposes. In addition, determine if it was the intent of Congress under this Act to delegate to the Corps of Engineers authority to change project purposes without specific Congressional action.

I would like to take this opportunity again this year to request your continued support for adequate funding of Section 22, under Public Law 93-251, which authorizes the Corps of Engineers to provide technical planning support to Alabama.

Last year, I reported to you on the creation of the Alabama Water Resources Study Commission. They are currently in the process of developing recommendations on the future direction of Alabama's water resource activities. I am confident they will address the need for an even closer partnership between the state and federal governments and water resource development, to the benefit of Alabama and the Nation.

I thank you for your continued personal support of the water resource development and the wise utilization of our natural resources.

STATEMENT AND RESOLUTION OF THE GREATER ROME CHAMBER OF COMMERCE, GA

I am enclosing a resolution from the Greater Rome Chamber of Commerce in the interest of the continuing development on the Coosa-Alabama River System.

We acknowledge, with sincere appreciation, the wholehearted support and appropriations that have made it possible to plan, begin, and continue construction on the system's projects.

We hold this program to be a splendid example of cooperation between the federal government and private power company development for the benefit of the entire Southeast.

- RESOLUTION -

WHEREAS, those counties lying within the basin of the Coosa-Alabama rivers are experiencing economic growth due to the current development program now underway on the rivers, and feel this will accelerate even faster when the Coosa-Alabama waterway is fully navigable from Mobile, Alabama to Rome, Georgia; and,

WHEREAS, extensive commitments to private investment on navigable waterways have been made on the assumption that federal maintenance and operation of the waterways would be continued, and studies of completed waterways such as the Arkansas, the Gulf Intracoastal Waterway, and also of the planned Coosa Project, show that the returns fully justify such investment; and,

WHEREAS, waterways provide a competitive alternative for shippers, lowered freight rates are in the national interest as manufacturers and farmers compete to improve our balance of payments; and,

WHERFAS, waterways provide efficient transportation productivity that lowers inflation and reduces national deficits; and,

WHEREAS, a public policy decision to invest in an underdeveloped region like the Coosa Valley would strengthen the nation as a whole; and,

WHEREAS, the Waterways Trust Fund, maintained by user fuel taxes, should be considered an investment by the users and should be returned as an aid to expanded development; and,

WHEREAS, dynamic economic growth, increased hydropower and barge transportation facilities, a more productive way of life, as well as increased recreational enjoyment, are but a few of the numerous benefits that will accrue when this great system is developed;

NOW, THEREFORE BE IT RESOLVED, that the Greater Rome Chamber of Commerce approves testimony by the Coosa-Alabama River Improvement Association for support of appropriations on the following projects:

(1) Resumption of design and engineering work on the Coosa Project which was suspended in 1983;

(2) Continued timely dredging and appropriate maintenance of the Alabama River channel below Claiborne;
(3) Continued federal maintenance and operation of the Alabama River waterway from Mobile to Montgomery;
(4) Continued operation and maintenance of the upstream reservoirs and hydropower plants at Allatoona Lake, and Carters Lake, in Georgia;
(5) Maintaining the schedule for the Mobile Harbor Deepening Project to 55-feet depth.

NOW, THEREFORE BE IT FURTHER RESOLVED, that we, the Greater Rome Chamber of Commerce, being a part of a collective effort to maintain and extend the Coosa-Alabama rivers waterway, strongly urge appropriations representing the capability of the Corps of Engineers for Fiscal Year 1991.

Approved in regular session of the Board of Directors of the Greater Rome Chamber of Commerce, this 22nd day of March, 1990.

STATEMENT OF CITY OF WETUMPKA, AL

The City of Wetumpka supports Coosa Alabama River Improvement Association in their budget request to the subcommittee. Please consider the following specific matters:

1. Modifying the Water Resource Development Act of 1986 to enable nondeveloped and developing rivers to be exempt from most cost-sharing requirements until reasonable level of tonnage is achieved.
2. Resume design and engineering work on the Coosa Project, which was suspended in 1983.
3. Continue timely dredging and appropriate maintenance for the Alabama River Channel below Claiborne.
4. Continue Federal maintenance and operation of the Alabama River waterway from Mobile to Montgomery.

We also would like to point out that:

1. Extensive commitments to private investment on navigable waterways have been made on the assumption that Federal Maintenance and operation of the waterways would be continued.
2. Waterways provide efficient transportation productivity that lowers inflation and reduces national deficits.
3. Lowered freight rates are in the national interest as manufacturers and farmers compete to improve our balance of payments.
4. Congress must use every means to resist unilateral reallocation of shared water resources between states. The institutionalization of interstate compacts as a viable substitute for protracted court action must be encouraged at the federal level.
5. A public policy decision to invest in an underdeveloped region like the Coosa Valley would strengthen the nation as a whole.
6. Studies of completed waterways such as the Arkansas, the Gulf Intracoastal Waterway, and also of the planned Coosa Project, show that the returns fully justify the investment.
7. The Waterways Trust Fund, Maintained by user fuel taxes, should be considered an investment by the users and should be returned as an aid to expanded development.

Your consideration in this matter will be appreciated.

STATEMENT OF ALABAMA RIVER PULP CO., INC.

Alabama River Pulp Company, Inc. is pleased to participate in the efforts to improve the Coosa-Alabama Waterway and maintain the Alabama River as a viable waterway.

As the Alabama River channel is improved, we will have the opportunity to expand our barging operations as much as economically possible to achieve lower transportation costs for incoming raw materials, fuels, supplies and outgoing finished product.

We produce bleached market kraft woodpulp both for the domestic and export market. In 1989 we barged no tons of outbound finished product but received 13,000 tons of inbound of #6 Fuel Oil.

Over the last three years, we have studied the economic feasibility of barging finished woodpulp to our domestic customers in Wisconsin, Michigan, Ohio and the Northeastern part of the United States.

Alabama River Pulp Company's present domestic shipments of finished product considered for barging is approximately 100,000 tons to Wisconsin and Michigan costomers and approximately 75,000 tons to customers in Ohio and Northeastern United States for a possible total barging volume of 175,000 tons that may be shipped via the Tenn-Tom Waterway.

This year we will start up Alabama River Newsprint Company, a 250,000 tons per year newsprint mill that will serve the Southeastern and Southwestern U.S.

This $320 million mill is located next to our present pulp mill here in Monroe County on mile 69 of the Alabama River. It will produce approximately 250,00 tons of newsprint per year and employ between 150 to 200 permanent employees.

A portion of this 250,00 tons of newsprint may well be shipped to distribution centers by the inland waterway system if economically feasible.

Also Parsons and Whittemore, Inc., the parent company of Alabama River Pulp, Company, Inc., has started construction on an additional pulp mill here at this location. This new pulp mill will be equal in size to the existing mill and produce approximately 450,000 tons per year of softwood pulp. This mill is estimated to provide an additional 175,000 tons of finished product to our domestic pulp customers. Our combined domestic shipments of pulp from 1992 on will be approximately 350,000 tons of finished product to our domestic pulp customers. A portion of this combined tonnage may well be shipped to domestic customers and/or distribution centers by the inland waterway system if economically feasible.

It is our intent to use water transportation whenever economically possible because we predict this mode of transportation will experience the lowest rate of cost increase over the next five to ten years.

While the Alabama River has an authorized project depth of nine feet and at this level could be sufficient for the Alabama River Pulp Company's barge movement of pulp from the mill to our domestic customers in Wisconsin, Michigan and Ohio and the newsprint shipments from this site. However, this draft historically has been available to commercial traffic for only approximately nine months each year. An example would be during the last summer and early fall, there is a 90-100 day period of "low water" when the river depths are less than eight feet which restricts usable barge drafts to about seven feet. Conversely, a "high water" period in the spring months produces swift currents making navigation difficult on several critical and narrow bends.

The Corp's Mobile office is congnizant of the aforementioned problem facing commercial interest on the Alabama River and within their discretionary authority, has instituted studies and corrective measures for these problems. Possible short intermediate term solutions being evaluated include: increased regulation of water discharges at the Claiborne Lock and Dam which should partially mitigate the seasonal low water problem: modified operational procedures for the Jones Bluff and Millers Ferry projects (up-river) to capture and harness all available water flows above Claiborne: and, additional dikes and "training" structures on the lower river to further confine water-flows thereby increasing depths in critical reaches of the waterway.

Should these alternatives prove to be ineffective in solving this long standing problem on the Alabama River, the Corps has also indicated that it may be necessary to seek funding, as to identify additional projects or authority needed from the Congress to increase the River's lowflows.

We are pleased to be located on this Alabama waterway in Monroe County and look forward to the improvement of this vital waterway. We must all work together to converse our energy resources in the most efficient manner possible.

We respectfully request your concurrence and recommendation of funding being sought by the Coosa-Alabama River Improvement Asociation for fiscal year 1990.

STATEMENT OF MONROE COUNTY, AL, COMMISSION

The Monroe County Commission, Monroe County, Alabama, respectfully requests your approval of the FY-91 appropriations as submitted by the U.S. Corp of Engineers for the continued development of the Coosa-Alabama Rivers System.

The continued development of the Coosa-Alabama Rivers System, from Rome, Ga. to the Port of Mobile, Alabama is essential for the Southeast to realize the mazimum economic benefits. There is presently under construction near Claiborne, Monroe County, Alabama, a $1.1 Billion Pulp and Newsprint Mills in addition to a $285 million Pulp Mill already in production. As these Mills are completed and become operational the utilization of the Alabama River becomes more and more essential. Timely dredging and appropriate maintenance for the Alabama River Channel below Claiborne, Federal maintenance and operation of the Alabama River waterway from Mobile to Montgomery, and maintaining the schedule for the Mobile Harbor deepening project to 55 feet are critical to the successful operation of this Pulp and Paper complex, which will be the largest of its kind in the world when completed, not to mention the fact, that Claiborne docks is very important to the farmers of this area of Alabama for the shipment of grain by barge to the Port of Mobile.

We, therefore, respectfully request favorable consideration be given to the approval for FY-91 appropriations for the Coosa-Alabama River System as requested by the U.S. Corp of Engineers.

STATEMENT OF CITY OF ROME, GA

On behalf of the citizens of Rome, Georgia, we would like to file the following statement of support.

We believe that water based transportation is an essential and integral part of the national transportation system. Water transportation will have an increasing significance in future years because it requires less fuel and less labor per ton mile when compared to other transportation modes. The cost for the various projects being discussed should not be viewed as an expense to this nation, but should be looked on as an investment in our economic development.

In addition to water transportation, the Coosa/Alabama River Association has also been involved with water conservation programs and the reallocation of water throughout the entire Coosa Basin. Our community is 100% dependent on the Coosa Basin for all of our water. We fully support all of the efforts of the Coosa/Alabama River Association in this effort and we are very much opposed to the inter-basin transfer of water. We are particularly concerned about the transfer of water from Lake Allatoona into the Atlanta region if it transfers water from the Coosa Basin to the Chattahoochee Basin.

Specifically, we support the following activities of the Coosa/Alabama River area:

1) Resume design and engineering work on the Coosa project, which was suspended in 1983.

2) Continue operation and maintenance of the upstream reservoirs and hydropower plants at Allatoona and Carters Lakes in Georgia.

3) We fully support the Association's request for fiscal year 1991, and we are a part of a collective effort to maintain and extend the Coosa Basin Waterway.

4) The Waterways Trust Fund, maintained by User Fuel Taxes, should be considered an investment by the users and should be returned as an aid to expanded development.

On behalf of the citizens of Rome, I wish to thank you in advance for your consideration of these matters.

RESOLUTION OF PH&J ARCHITECTS, INC.

WHEREAS, the Coosa-Alabama River Improvement Association, Inc. has diligently supported efforts to improve and vitalize waterways in Alabama and the United States for over 100 years; and,

WHEREAS, the leadership of the Coosa-Alabama River Improvement Association, Inc. is comprised of respected and dutiful persons; and,

WHEREAS, the goals of the Coosa-Alabama River Improvement Association, Inc. and its constituents are to promote positive action towards projects essential to the availability and use of waterways and the natural environment;

BE IT THEREFORE RESOLVED that the architectural firm PH&J Architects, Inc. having practiced in a professional, environmentally conscious pattern for over 35 years does support the efforts of the Coosa-Alabama River Improvement Association, Inc., and,

BE IT FURTHER RESOLVED that PH&J Architects, Inc. requests that the Congressional Appropriations Subcommittee favorably receive the requests of the Coosa-Alabama River Improvement Association, Inc.

STATEMENT OF MONROEVILLE AREA, AL, CHAMBER OF COMMERCE

The Monroeville Area Chamber of Commerce is in strong support of the Coosa-Alabama River Improvement Association's funding requests for FY91. Navigation on the Alabama River is critical to the continued improvement and economic development of Monroe County, Alabama.

During 1988 and 1989, the waterway played a crucial role in attracting $ 1.1 billion in new industry to Monroe County. The river is used to transport raw materials (wood, wood chips, etc.) to industrial operations at Claiborne on the banks of the Alabama River. The completed production moves through the State Docks at Mobile, and makes Monroe County Industry the largest exporter through the State Docks at Mobile. Maintenance of the river is therefore vital to Monroe County's economic stability, and thus we support a budget request for appropriate maintenance of the Channel from Claiborne to Mobile.

It is also our desire that work on the Coosa Project be resumed, in order that the entire system is made navigable from Mobile to Rome, Georgia. The State of Alabama will not feel the maximum economic benefit of the waterway until this takes place.

The Monroeville Area Chamber of Commerce is working as part of a unified effort to maintain and extend the waterway which is so critical to the continued economic health and vitality of our region.

STATEMENT OF ROBERT M. CRESWELL, CAMDEN, AL

As the former Resource Manager of Alabama River Lakes, I have maintained a keen interest in the use and growth of the river since retiring in 1984. I fully support the Coosa-Alabama River Development Association's funding requests for FY 91 and am testifying as part of the regional effort to improve and extend the waterway.

It is gratifying to note that the tonnage on the Alabama River has been stable with increases of same during the years 1981-1986. With the announced expansion by Parsons and Whittemore of the Alabama River Pulp Company into a 700 million dollar paper products complex in Monroe County, it is almost assured that the Alabama River will be used as a major transportation means for the raw and finished materials from this endeavor.

In view of the above, it is essential that the channel be maintained below Claiborne Dam to insure that this user and other major lines, i.e. Scott Paper and International Paper Co. can keep their mills supplied. The work on training dikes and dredging of channel must be continued. The Alabama River can still become a major inland waterway and is an invaluable adjunct to the Tenn-Tom Waterway.

Waterways, in general, provide this nation with its most efficient and economical transportation system which tends to lower inflation and ease pressure on the federal deficit. Lower freight rates, in turn, result in a better export market for American producers.

I trust that your committee will give favorable consideration to the requests by the Coosa-Alabama River Improvement Association, Inc. for the FY 91 Budget.

STATEMENT OF MONTGOMERY, AL, CHAMBER OF COMMERCE

As President of the Montgomery Area Chamber of Commerce, I strongly urge you to support the FY91 funding requests of the Coosa-Alabama River Improvement Association.

The Chamber, in its economic development effort, promotes river usage as part of our intermodal transportation system, and thus, has a continuing interest in maintaining and improving the viability of the Alabama River as a waterway link to the Tennessee-Tombigbee Waterway and to the Port of Mobile. Consequently, we also support the Association's desire to resume work on the Coosa Project and also to maintain the Mobile Harbor Deepening Project.

We appreciate your past support of the Association's goals and wish to impress upon you our sincere commitment to promoting the Coosa and Alabama rivers for economic development.

RESOLUTION OF THE ALABAMA ELECTRIC COOPERATIVE, INC.

BOARD OF TRUSTEES

WHEREAS, Alabama Electric Cooperative, Inc. (AEC), generates and transmits electrical energy to it's member-owners which are comprised of sixteen (16) rural electric cooperatives, four (4) municipalities and two (2) industries and in turn, these member-owners furnish power to homes, farms, commercial and industrial establishments of more than 500,000 consumers; and

WHEREAS, the area served by some of these electric cooperative systems encompasses the same area as the Coosa-Alabama River Systems, an area which is predominantly agricultural/forest related, sparsely populated and where the related industry is lagging behind. As a result, the unemployment rates in the areas of the Coosa-Alabama River System are still high. The development of the Coosa River Project and the continued improvement of the Alabama River Waterway will aid in bringing industry and jobs to this depressed area:

THEREFORE, BE IT RESOLVED THAT, to accomplish the development of the Coosa River Project and the continued improvement of the Alabama River Waterway, the Alabama Electric Cooperative Board of Trustees requests your subcommittee consider and approve the following: 1) Resume design and engineering work in the Coosa Project. 2) Continue operation and maintenance of upstream reservoirs and hydropower plants at Allatoona and Carters Lake in Georgia. 3) Modify the Water Resource Development Act of 1986 to enable non-developed and developing river systems to be exempt from most cost-sharing requirements until a reasonable level of tonnage is achieved. 4) Restore Section 140 authority (as contained in the Act of 1976) to enable regional benefits to be used in computing benefit/cost ratios. 5) Maintain the schedule for the Mobile Harbor Deepening Project to 55 foot depth. 6) Continue U. S. Army Corps of Engineers maintenance and operation of the Alabama River Waterway from Montgomery to Mobile.

I, J. E. Smith, Secretary of Alabama Electric Cooperative, Inc., hereby certify that the above is a true and correct copy of a resolution adopted at the meeting of the Board of Trustees of Alabama Electric Cooperative, Inc. on March 23, 1990, at which a quorum was present and voted.

I further certify that none of the said resolution has been altered, modified, or rescinded.

This the 23rd day of March, 1990.

STATEMENT OF MONTGOMERY, AL, COUNTY COMMISSION

The Montgomery County Commission continues to closely follow the development of the Coosa-Alabama River project which was originally authorized by the Congress in 1945. We believe that the benefits which accrue to the citizens of this region, and to the nation, fully justify the complete construction and operation of this economical waterway.

We fully support the testimony provided by the Coosa-Alabama River Improvement Association. For many years this group has represented us and they accurately reflect our feelings of support for this waterway project.

Of particular interest to us is funding which would complete lowering the dredge reference profile and rock removal. Associated with this project is the completion of Phases I and II of the training dike work.

Also, we feel that the requested appropriation to continue the operation and maintenance of the entire system to include the reservoirs and hydropower plants is essential to the continuity of this project. We believe this project direclty relates to lowered freight rates and improves the export market and creates a positive national improvement on our nation's trade balance.

We urge your favorable consideration of the recommended appropriations for FY91. Adequate funding as requested is necessary to insure that progress is made for further development of the system and to properly operate and maintain the existing portion. Similar information has been sent to Honorable Tom Bevill, Chairman, House Subcommittee on Appropriations for Energy and Water Development, House of Representatives, regarding this matter.

STATEMENT OF MICHAEL D. THOMPSON, BIRMINGHAM, AL

Thompson Tractor Co., Inc. is the authorized Caterpillar dealer for the state of Alabama and the ten counties of Northwest Florida. Our company of 750 employees is dedicated to the sale and service of the full line of Caterpillar equipment, lift trucks and engines.

Our products are found in every industry having materials to be moved: coal, forest products, sand and gravel, grain, chemicals, and manufactured goods. The Coosa-Alabama River is of vital importance to Thompson Tractor Co. and to our customers. Two of the major markets we serve, coal and pulp and paper, rely heavily on an efficient water transportation system.

Thompson Tractor Co. supports the Coosa-Alabama River Improvement Association funding requests for fiscal year 1991. Our waterways provide efficient transportation productivity and it is vitally important that the Alabama River reach its potential as a major inland waterway.

The efficiency and reliability of Alabama's water transportation system must be improved. We support the March 27, 1990 testimony of the Coosa-Alabama River Improvement Association and pledge our support to the success of our waterway systems.

STATEMENT OF TOM B. JORDAN, CENTRE, AL

I wholeheartedly support the Coosa-Alabama River Improvement Association's funding requests for FY91.

The Alabama River was one of the few rivers to show increases during the years 1981-1986, and the tonnage appears to have eased somewhat since then. I believe that it would increase with enhanced reliability. Since we are in agriculture in Cherokee County, the increase in fuel taxes and user charges are affecting us. These higher taxes should be plowed back into the river development.

We also need improved reliability of the channel so the Alabama River can reach its potential as a major inland waterway. To do this, there will be a need for additional money in the operations and maintenance area.

Waterway users continue to have to pay a special tax on diesel fuel. This tax should be used solely to open new markets to users by developing the waterways. Also, the freight rates need to be lowered in order to give our producers a better export market which would help the trade balance.

We know that you are doing everything you can in getting appropriations to improve the waterways, and we are appreciative of your efforts.

STATEMENT OF ALABAMA ELECTRIC COOPERATIVE, INC.

Alabama Electric Cooperative, Inc. (AEC) along with its twenty-two (22) member systems fully support the testimony of the Coosa-Alabama River Improvement Association, Inc., before your subcommittee. As a member of the Coosa-Alabama River Improvement Association, AEC joins with the Association in its endeavor to improve the efficiency and reliability of the Coosa-Alabama River Systems.

Alabama Electric Cooperative, Inc. (AEC), with its headquarters in Andalusia, Alabama generates and transmits electrical energy to its twenty-two (22) member systems throughout Central and South Alabama and the panhandle of Northwest Florida. These member-owners are comprised of sixteen (16) rural electric cooperatives, four (4) municipalities and two (2) industries. In turn, these member-owners furnish power to homes, farms, commercial and industrial establishments of more than 500,000 consumers.

The area served by some of AEC's member systems encompasses the same area as the Coosa-Alabama River Systems. This area is predominantly agricultural/forest related and is sparsely populated. The agricultural/forest related industry in this area is lagging behind and has not experienced the rate of recovery the rest of the United Sates economy has enjoyed. As a result, the unemployment rates in some of the areas of the Coosa-Alabama River System are still high. The development of the Coosa River Project and the continued improvement of the Alabama River Waterway will aid in bringing industry and jobs to this depressed area.

To accomplish the development of the Coosa River Project and the continued improvement of the Alabama River Waterway, AEC requests your subcommittee to consider and approve the following: Resume design and engineering work in the Coosa Project. Continue operation and maintenance of upstream reservoirs and hydropower plants at Allatoona and Carters Lake in Georgia. Modify the Water Resource Development of Act of 1986 to enable non-developed and developing river systems to be exempt from most cost-sharing requirements until a reasonable level of tonnage is achieved. Additionally, restore Section 140 authority (as contained in the Act of 1976) to enable regional benefits to be used in computing benefit/cost ratios. Maintain the schedule for the Mobile Harbor Deepening Project to 55 foot depth. Continue U. S. Army Corps of Engineers' maintenance and operation of the Alabama River Waterway from Montgomery to Mobile.

STATEMENT OF DRAVO BASIC MATERIALS CO., INC.

We respectfully request your consideration and approval of the following projects on the Coosa-Alabama River System for fiscal year 1991:

1) Resume Coosa River Navigation Project.
2) Continued rehabilitation of training dykes and modification of dredging profile for the Alabama River
3) Operation and maintenance - Claiborne Lock and Dam.
4) Operation and maintenance - Miller's Ferry Lock and Dam.
5) Operation and maintenance - Robert F. Henry Lock and Dam.
6) Operation and maintenance - reservoirs and hydro-electric stations.
7) Operation, maintenance, improvements and deepening of Mobile Harbor.

We support the testimony of the Coosa-Alabama River Improvement Association and we join the efforts of its membership to maintain and extend the waterway to make the benefits of low cost, energy efficient water transportation available to a broader economic base.

Dravo Basic Materials Company, Inc. is one of the leading producers of construction raw materials and aggregates on the Gulf Coast. We rely extensively on the waterways of Alabama, Florida, Louisiana, Mississippi and Texas for production and delivery of our products. In 1989 we produced and moved via Alabama waterways over 1,250,000 tons of sand and gravel. We also transported over 250,000 tons of limestone as well as significant quantities of other products. Our projections for 1990 are:

Sand and Gravel	1,500,000 tons
Other	500,000 tons

Dravo Basic Materials Company, Inc. operates a fleet of 23 boats, 85 barges and 7 dredges. We maintain a large terminal and handling facility on McDuffie Island in Mobile, Alabama in addition to numerous support facilities throughout South Alabama and the Gulf Coast.

The maintenance of authorized project dimensions is essential for the efficient, orderly production and delivery of materials throughout the waterway system. In order to provide this capability, it is imperative not only that the Army Corps of Engineers be provided with the appropriations as per their budget requests, but also with the additional funds required to insure the Corps has the flexibility and capability to fully realize the potential of the Coosa-Alabama River System and the Port of Mobile.

We sincerely appreciate the Committee's faith in the great waterway systems of the State of Alabama and welcome its continued support of these vital projects.

STATEMENT OF ALABAMA GAS CORP.

We at Alabama Gas Corporation and our parent company, Energen, are vitally interested and concerned over the economic development of the State of Alabama. In this regard, we have taken some positive and innovative steps to promote and encourage economic development. In keeping with this corporate philosophy we support the Coosa-Alabama River Improvement Association, Inc. and its FY91 requests. Even though we will be unable to be in Washington, D.C. on March 27, 1990, we are part of a collective effort to maintain and extend the waterway.

We would like to emphasize the following specific matters which are vitally important to us:

- Continue federal maintenance and operation of the Alabama River waterway from Mobile to Montgomery.
- Maintain the schedule for the Mobile Harbor Deepening Project to 55 feet depth.

In addition to the above, we believe that a public policy decision to invest in an underdeveloped region like the Coosa Valley would strengthen the nation as a whole.

STATEMENT OF CHEROKEE FARMERS COOPERATIVE, INC.

Cherokee Farmers Coop. which is located in Centre, Al. We purchased approximately 4000 to 5000 tons of fertlizer a year. All of this material is shipped in by truck, from Flordia, Mississippi, and Florence, Al. The cost of shipping this material is very expensive and time comsuming. We also ship from 200,000 to 300,000 bushels of grain to Guntersville, Al. or Decatur, Al. each year. This is also expensive and time comsuming. We have several other Bussinesses in the Centre area which imports, or ships similiar amounts of Farm Commodities to Market over these large distances.

I have been studying the progress on the Coos-Alabama River Project. I would like to ask you to please help support this Project. I believe it would be very beneficial in helping our Community reach it's Potentail Economical Prosperity. I also believe it will open New Opportunies for New Bussinesses all the way from Mobile, Al. to Rome, Ga.

STATEMENT OF JAMES T. JORDAN, CENTRE, AL

The Alabama River was one of the few rivers to show increases during the years 1981-1986, and the tonnage appears to have eased somewhat since then. I believe that it would increase with enhanced reliability. Since we are in an agricultural area, and this affects everyone in agriculture, the increase in fuel taxes and user charges are really affecting us. These higher taxes should be plowed back into the river development. Therefore, I really support the Coosa-Alabama River Improvement Association's funding requests for FY91.

We also need improved reliability of the channel so the Alabama River can reach its potential as a major inland waterway. To do this, there will be a need for additional money in the operations and maintenance area.

Waterway users continue to have to pay a special tax on diesel fuel. This tax should be used solely to open new markets to users by developing the waterways. Also, the freight rates need to be lowered in order to give our producers a better export market which would help the trade balance.

We know that you are doing everything you can in helping to get appropriations to improve the waterways, and we are most appreciative of your efforts.

RESOLUTION OF FLOYD COUNTY, GA

THAT WHEREAS, the Congress of the United States is again considering appropriations for the Fiscal Year 1991 for further work to make navigable the Alabama-Coosa River System from Mobile, Alabama to Rome, Georgia and we request your favorable consideration; and,

WHEREAS, Floyd County is a part of the collective effort to maintain and extend the waterway and we wish to express our support for the efforts of the Coosa-Alabama River Improvement Association; and,

WHEREAS, we urge you to continue the operation and maintenance of the upstream reservoirs and hydropower plants at Allatoona and Carters Lake in Georgia; and,

WHEREAS, we also urge that the design and engineering work in the Coosa Project, which was suspended in 1983, be resumed.

NOW, THEREFORE, BE IT RESOLVED, that this Board of Commissioners goes on record in support of the Coosa River Navigation Project.

Done in open meeting this 13th day of March, 1990.

STATEMENT OF CHEROKEE COUNTY, AL, COMMISSION

The Cherokee County Commission highly supports the Coosa-Alabama River Improvement Association requests for fiscal year 1991. We are proud to be a part of a collective effort that will maintain and extend the waterway. Our desire is that design and engineering work on the Coosa project will resume. It was suspended in 1983. Additinally, lower freight rates are desirable and in the national interests to farmers and manufacturers in order to improve our balance of payments.

We compliment you and your staff and the Subcommittee for the work you are doing in Washington.

STATEMENT OF SOUTHERN COMPANY SERVICES, INC.

Southern Company Services, Inc. on behalf of Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power Company and Savannah Electric and Power Company, supports the Coosa-Alabama River Improvement Association and its president in their efforts before your committee. Although the Southern electric system does not use the Coosa-Alabama River to deliver coal to our system plants, a number of our electric generating facilities are located on or near the river. We depend on this river system for cooling water at fossil fueled plants as well as generating hydro-electric power. In addition, the Coosa-Alabama River is located in the geographic center of our service area.

Of interest to the Southern electric system is the continued federal maintenance and operation of the Alabama River waterway from Mobile to Montgomery, the continued maintenance for the Alabama River Channel below Claiborne and maintenance of the upstream reservoirs and hydro-power plants at Allatoona and Carters Lake in Georgia. We are also very interested in resuming the design and engineering work on the Coosa Project which was suspended in 1983 and maintaining the schedule for the Mobile Harbor Deepening Project to a 55 foot depth. In addition, we would like the subcommittee to consider modifying the Water Resource Development Act of 1986 to enable non-developed and developing rivers to be exempt from most cost-sharing requirements until a reasonable level of tonnage is achieved and restore Section 140 authority (as contained in the Act of 1976) to enable regional benefits to be used in computing benefit/cost ratios.

In closing, we believe that extensive commitments to private investment on navigable waterways have been made in the past on the assumption that federal maintenance and operation of the waterways would be continued. A public policy decision to invest in an underdeveloped region like the Coosa Valley should serve to strengthen the nation as a whole. For example, the Waterways Trust Fund, maintained by user fuel taxes, should be considered an investment by the users and should be returned as an aid to expanded development. We strongly believe that Congress must use every means to resist unilateral reallocation of shared water resources between states. The institutionalization of interstate compacts as a viable substitute for protracted court action must be encouraged at the federal level. It is for these reasons that the Southern electric system supports a continued program of adequate funding for constant maintenance and upgrading of the Coosa-Alabama River system. As such, I strongly urge and solicit your support for the Association's request for FY91 appropriations

STATEMENT OF ETOWAH COUNTY, AL, COMMISSION

It is indeed an expressed honor to appear before your committee on behalf of the citizenry of Etowah County and surrounding areas. It is most imperative that we, as the local entity, in joint effort with the state and federal governments, strive through every means possible to prevent the navigational effort, for the Coosa River, from falling by the wayside. The fact that our local county government has seen fit to sent two representatives to be in attendance at your committee hearings is indicative of the acute interest in the navagational aspect of the Coosa River.

As you may have seen from national news media reports, this area has been dealth a rather severe economic blow, in recent months, by the downturn in the local industrial sector. This appears to be brought about primarily by foreign competition. To offset this, we must capitalize on every available resource at our disposal in order to produce goals at a lower unit cost. According to statistics, water transportation can greatly enhance this effort.

There are several industries in this immediate area that could benefit greatly from water transportation. Gulf States Steel,Goodyear Tire and Rubber Company and Alabama Power Company's steam plant are typical examples of industries that rely on large bulk shipments of raw products for which water transportation is well suited.

It would appear that for our nation to maintain a strong vibrant economy, we must develope our inland waterways, of which our Coosa Alabama system is a vital element, in this network.

STATEMENT OF KOPPERS INDUSTRIES, MONTGOMERY, AL

Representing Koppers Industries, Inc., Montgomery, Alabama Plant, I am writing to relay to you my support of the Coosa-Alabama River Improvement Association, Inc. funding request for the fiscal year 1991. I am testifying as part of a regional effort to improve and extend the waterway.

Koppers uses the waterway to barge material from Montgomery to Mobile for export and movement to St. Paul, MN.

In 1989 we shipped 7 barges of treated wood poles and piling. The weight of this material was 7,352 tons.

The depth of the river forces us to use three barges per shipment until we reach Hooks Lake, down river from Montgomery approximately 2 days river time, where the greater river depth will allow us to off load the third barge onto the other two for movement on down river. This cost Koppers an additional $2500 to $3000 each time the third barge is used. Freight would be more cost effective if the river levels were more conducive to full capacity barge travel.

Koppers has found the waterway to be an asset and we urge the Subcommittee to approve the needed funding for improvements.

STATEMENT OF ALABAMA-TOMBIGBEE REGIONAL COMMISSION

The Alabama-Tombigbee Regional Commission is pleased to submit a statement on behalf of the Coosa-Alabama Improvement Association, Incorporated in support of their request for Fiscal Year 1991 Funding.

The Alabama-Tombigbee Regional Commission is a multi-county planning and development commission located in southwest Alabama. Our governments include a 10 county and fourty-seven municipalities. The Alabama-Tombigbee Regional Commission is very rural with a land area of approximately 10,000 square miles. According to the 1980 Census, there are 225,600 residents of which 51% is black. Our communities are small with all but one under 7,000 persons. In 1989, our per capita income ranged from a low of $6,458.00 to a high of $9,955.00, consderably below the state average of $11,315.00. Our state and nation continues to suffer unprecended unemployment rates. The Alabama-Tombigbee Region alone presently has an unemployment rate of 10.9%. Federal investments that create jobs are desperatley needed to help alleviate the dire need for employment opportunities in our region and state.

Our waterways are one of our regions most valuable assets by providing transportation productivity, which lowers inflation and reduces the national deficits. It is vital to our region that the schedule for deepening the Mobile Harbor be maintained.

By remaining a viable watereay through continuation of Federal Maintenance and operation of the Alabama River from Montgomery to Mobile our region could overcome some of our economic problems.

Support for these projects by this Subcommittee is desperatley needed. The potential this project offers our region is of the utmost importance. We urge Congress to realize the need for and support the Coosa-Alabama River Improvem Association's request for Fisvcal Year 1991 Funding.

STATEMENT OF ED E. ASH, PELL CITY, AL

I support Coosa-Alabama River Improvement Association's requests for FY91, as you and I have discussed many times this would be a boost to the industrial growth along the Coosa River.

We in St. Clair County are hopeful that the committee will resume design and engineering work on the Coosa Projhect, which was suspended in 1983.

Next time you are in St. Clair give me a call.

STATEMENT OF THE CEDARTOWN, GA, STANDARD

Our newspaper has recognized for many years the vast potential that lies within the scope of the Coosa-Alabama River System. Completion of the system will directly enhance the economic well-being of countless thousands of citizens.

Your Sub-Committee has looked with favor upon this program in the past and all of us closely involved are grateful. We know that you are also aware that completion of the program as rapidly as possible is in the best interest of both the government and the people.

We specifically ask that you resume design and engineering work on the Coosa Project, which was suspended in 1983. Also maintenance and operation monies for the Alabama River, Allatoona, Carter's Lake, Claiborne, Jones Bluff and Millers Ferry dams and locks, and improving the Mobile Harbor.

We earnestly solicit your continued support and urge that favorable consideration be given to the total Fiscal Year 1991 request.

RESOLUTION OF ST. CLAIR COUNTY COMMISSION

WHEREAS, the Coosa-Alabama River Improvement Association, Inc. will testify before the Congressional Appropriations Subcommittees in Washington, D.C. on Tuesday, March 27, 1990; and

WHEREAS, the Association has provided, during the last century, a collective effort to extend and maintain water needs and relationships among users in the major basins of our area;

NOW THEREFORE BE IT RESOLVED That the St. Clair County Commission urges support of the Association's requests for FY91; and

FURTHER, That Congress use every means to resist unilateral reallocation of shared water resources between states; and

FURTHER, That copies of said resolution be forwarded to the Coosa-Alabama River Improvement Association, Inc.,; the Honorable Tom Bevill, Chairman, House Subcommittee on Appropriations for Energy and Water Development; and the Honorable J. Bennett Johnston, Chairman, Senate Subcommittee on Appropriations for Energy and Water Development.

Adopted this 13th day of March, 1990.

STATEMENT OF THE CALHOUN, GA, TIMES

Our newspaper has recognized for many years the vast potential that lies within the scope of the Coosa-Alabama River System. Completion of the system will directly enhance the economic well-being of countless thousands of citizens.

Your Sub-Committee has looked with favor upon this program in the past and all of us closely involved are grateful. We know that you are also aware that completion of the program as rapidly as possible is in the best interest of both the government and the people.

We specifically ask that you resume design and engineering work on the Coosa Project, which was suspended in 1983. Also maintenance and operation monies for the Alabama River, Allatoona, Carter's Lake, Claiborne, Jones Bluff and Millers Ferry dams and locks, and improving the Mobile Harbor.

We earnestly solicit your continued support and urge that favorable consideration be given to the total Fiscal Year 1991 request.

STATEMENT OF PARKER TOWING CO., INC.

My name is Tim Parker, Jr., and I am President of Parker Towing Company. I wholeheartedly endorse and support the testimony of the President of the Coosa-Alabama River Improvement Association.

It is in the interest of not only my company, but to the region as a whole, to continue the federal maintenance and operation of the Alabama River Waterway. This would not only assure improved reliability of the waterway and the Alabama River can reach its potential as a major inland waterway.

Also, waterway users continue to pay a special tax on diesel fuel, and if tax money were used to open new markets and increase competition into underdeveloped regions this would help strengthen the Nation as a whole.

Our inland waterways provide a competitive alternative for all shippers and without the continued maintenance and operation of these waterways, an effective means of transportation cannot be offered to the shippers. Broad investments have been made and are being made on the premises that federal maintenance and operation of these waterways will continue.

Everything that we do that will lead to increased activity with our region's industry and along with increased activity, employment will surely multiply as well and should not be compromised.

STATEMENT OF THE NEWS PUBLISHING CO., ROME, GA

Our newspaper has recognized for many years the vast potential that lies within the scope of the Coosa-Alabama River System. Completion of the system will directly enhance the economic well-being of countless thousands of citizens.

Your Sub-Committee has looked with favor upon this program in the past and all of us closely involved are grateful. We know that you are also aware that completion of the program as rapidly as possible is in the best interest of both the government and the people.

We specifically ask that you resume design and engineering work on the Coosa Project, which was suspended in 1983. Also maintenance and operation monies for the Alabama River, Allatoona, Carter's Lake, Claiborne, Jones Bluff and Millers Ferry dams and locks, and improving the Mobile Harbor.

We earnestly solicit your continued support and urge that favorable consideration be given to the total Fiscal Year 1991 request.

STATEMENT OF ALABAMA POWER CO.

The Coosa-Alabama Waterway is an important link in the nation's infrastructure, and is a key element in the continued economic health of the central and southern regions of our state. A dependable water transportation system is an essential ingredient to attracting new industries to these areas as well as insuring the economic viability of those industries now using this waterway.

Alabama Power Company supports the Coosa-Alabama River Improvement Association's request for FY91 funding to continue operation and maintenance of this important waterway. Significant private investments have been made along the Alabama River waterway, and these investments were made on the basis of continued Federal operation and maintenance of the system. Continued rehabilitation of existing training dikes and construction of additional dikes for the Alabama River as well as continued operation and maintenance of the upstream Allatoona and Carters Projects should be priority items.

Another prominent issue of concern is the reallocation of water resources between states. Congress must use every means to resist unilateral reallocation of shared water resources. The institutionalization of interstate compacts as a viable substitute for protracted court action must be encouraged at the Federal level.

Alabama Power Company is a member of the Association, and we support the Association's efforts to improve the waterway and to insure its continued efficient operation.

STATEMENT OF ROME, GA, NEWS-TRIBUNE

Our newspaper has recognized for many years the vast potential that lies within the scope of the Coosa-Alabama River System. Completion of the system will directly enhance the economic well-being of countless thousands of citizens.

Your Sub-Committee has looked with favor upon this program in the past and all of us closely involved are grateful. We know that you are also aware that completion of the program as rapidly as possible is in the best interest of both the government and the people.

We specifically ask that you resume design and engineering work on the Coosa Project, which was suspended in 1983. Also maintenance and operation monies for the Alabama River, Allatoona, Carter's Lake, Claiborne, Jones Bluff and Millers Ferry dams and locks, and improving the Mobile Harbor.

We earnestly solicit your continued support and urge that favorable consideration be given to the total Fiscal Year 1991 request.

STATEMENT OF MISSISSIPPI CHEMICAL CORP.

Mississippi Chemical Corporation hereby wishes to state its full support of the Coosa-Alabama River Improvement Association. By copy of this letter, we join other users in collectively presenting to this committee our support for this organization and the importance of the waterway.

Mississippi Chemical is a manufacturer of commercial fertilizers, and is a totally farmer-owned cooperative with manufacturing facilities at Yazoo City, Mississippi and Donaldsonville, Louisiana. In order to facilitate delivery of fertilizers to the farmers in a short time-frame and at the most economical cost, various storage/distribution facilities are located at strategic points throughout our mid-south trade area. One of these facilities is on the Alabama River at Montgomery, Alabama.

Currently, Mississippi Chemical delivers ammonium nitrate fertilizer to the Montgomery facility by railcar. Prior to establishing a contract with the railroad, a comparison was made with cost of barge delivery. Due to the instablity year-round of the Alabama River, with resultant lack of availability of regular towboat operations, it was deemed to be in Mississippi Chemical's best interest to serve this facility by rail. However, with a reliable nine-foot year-round navigation system, barge transportation would once more become attractive.

We urge your continued support of appropriations for this waterway, as a dependable navigation system is imperative to its full utilization.

STATEMENT OF ROME PRINTING CO.

Our newspaper has recognized for many years the vast potential that lies within the scope of the Coosa-Alabama River System. Completion of the system will directly enhance the economic well-being of countless thousands of citizens.

Your Sub-Committee has looked with favor upon this program in the past and all of us closely involved are grateful. We know that you are also aware that completion of the program as rapidly as possible is in the best interest of both the government and the people.

We specifically ask that you resume design and engineering work on the Coosa Project, which was suspended in 1983. Also maintenance and operation monies for the Alabama River, Allatoona, Carter's Lake, Claiborne, Jones Bluff and Millers Ferry dams and locks, and improving the Mobile Harbor.

STATEMENT OF THE GEORGIA STATE BANK OF ROME

Please be advised that we strongly support the work of the Coosa-Alabama River Improvement Association, Inc. and urge your favorable considerstion of it's FY91 budget requests.

We are particularly interested in the continuation of the operation and maintenance of the upstream reservoirs and hydropower plants at Allatoona and Carters Lake in Georgia.

STATEMENT OF THE CHEROKEE COUNTY, GA, HERALD

Our newspaper has recognized for many years the vast potential that lies within the scope of the Coosa-Alabama River System. Completion of the system will directly enhance the economic well-being of countless thousands of citizens.

Your Sub-Committee has looked with favor upon this program in the past and all of us closely involved are grateful. We know that you are also aware that completion of the program as rapidly as possible is in the best interest of both the government and the people.

We specifically ask that you resume design and engineering work on the Coosa Project, which was suspended in 1983. Also maintenance and operation monies for the Alabama River, Allatoona, Carter's Lake, Claiborne, Jones Bluff and Millers Ferry dams and locks, and improving the Mobile Harbor.

We earnestly solicit your continued support and urge that favorable consideration be given to the total Fiscal Year 1991 request.

STATEMENT OF THE ROCKMART, GA, JOURNAL

Our newspaper has recognized for many years the vast potential that lies within the scope of the Coosa-Alabama River System. Completion of the system will directly enhance the economic well-being of countless thousands of citizens.

Your Sub-Committee has looked with favor upon this program in the past and all of us closely involved are grateful. We know that you are also aware that completion of the program as rapidly as possible is in the best interest of both the government and the people.

We specifically ask that you resume design and engineering work on the Coosa Project, which was suspended in 1983. Also maintenance and operation monies for the Alabama River, Allatoona, Carter's Lake, Claiborne, Jones Bluff and Millers Ferry dams and locks, and improving the Mobile Harbor.

We earnestly solicit your continued support and urge that favorable consideration be given to the total Fiscal Year 1991 request.

STATEMENT OF HENRY A. LESLIE, MONTGOMERY, AL

I want to take this opportunity to write you supporting the Coosa - Alabama River Improvement Association's request for funding!

The Union Bank Building overlooks the great Alabama River in downtown Montgomery, and it has been my pleasure over the years to show visitors to our city and state the great possibilities of transportation on this river.

I trust that you will fund the request of the organization, since our waterways provide transportation at a lower cost. This would tend to lower inflation, benefitting all our citizens, and thus tending also to ease the pressure on the deficit.

We have a very capable Executive Vice President of the Improvement Association, namely Ralph O. Clemens, Jr., who is particularly talented and articulate in representing the needs and interests of the users and potential users of our waterway as well as working with the various groups interested in water transportation.

Thank you for this opportunity to set forth my personal views.

STATEMENT OF FIRST ROME BANK, GA

We would like to recommend that you support the fiscal year 1991 for continued development of the Coosa-Alabama River.

We've also asked that you continue support for operation and maintenance of the upstream reservoirs and hydropower plants at Allatoona and Carters Lake in Georgia; and to resume design and engineering work on the Coosa Project.

Also, that the water in the Coosa River be used strictly for the Coosa River area.

STATEMENT OF H.D. SMITH, GADSDEN, AL

I am writing to you to express my support for the Coosa-Alabama River Improvement Association request for FY91. I am part of a collective effort to maintain and extend the waterway. Your support of the association's position will benefit our state and will be appreciated.

STATEMENT OF THE ANNISTON STAR, AL

Although Anniston is not on the Coosa River per se, we have always felt that the river development would be a great asset to the county, the state and the nation.

Our newspaper has supported this activity for more than 50 years and I hope you will consider this letter as written support for the Coosa-Alabama River Improvement Association Inc., request for FYI 91.

We also urge the Congress to consider modifying the Water Resource Development Act of 1986 to enable non-developed and developing rivers to be exempt from most cost-sharing requirements until a reasonable level of tonnage is achieved. We, too, believe that Section 140 authority (as contained in the Act of 1976) should be restored to enable regional benefits to be used in computing benefit/cost ratios.

We also urge that design and engineering work on the Coosa Project, which was suspended in 1983, be resumed, and that Federal maintenance and operation of the Alabama River waterway from Mobile to Montgomery be continued.

We also urge the continuance of operation and maintenance of the upstream reservoirs and hydropower plants at Allatoona and Carters Lake in Georgia, as well as the schedule for the Mobile Harbor Deepening Project to 55 feet depth.

We would greatly appreciate your assistance in these matters.

STATEMENT OF RAINBOW CITY, AL

I am writing in support of the Coosa-Alabama River Improvement Association's funding requests for FY91 and I will be attending the Congressional Hearing on March 27, 1990.

We will be asking for money in the operations and maintenance area to continue the working on training dikes and dredging. There is a definite need for improved reliability of the channel, so the Alabama River can reach its potential as a major inland waterway.

Waterways provide efficient transportation productivity that lowers inflation and tends to ease upward pressure on the deficit.

I look forward to seeing you in Washington, D. C. on March 27, 1990.

STATEMENT OF FIRST UNION NATIONAL BANK OF GEORGIA

I am writing to express my support for the COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION INC. and the projects that the Association sponsors. This letter is also a formal plea to you for your support of the associations appropriations request for fiscal year 1991.

The Association's agenda of projects includes several of great benefit to Northwest Georgia and the Coosa River region. I would particularly would like to express our interest in the "Coosa Project" because of the potential economic benefit to our area.

Thank you for your consideration and we look forward to another successful year for our Association and it's constituency.

STATEMENT OF FIRST ALABAMA BANK, MOBILE

This statement is rendered in behalf of the Coosa-Alabama River Improvement Association and requests for funding projects on both the Coosa and the Alabama rivers.

In 1983, the U. S. Army Corps of Engineers suspended design and engineering work on the Coosa project. We request that this work be resumed and funded in the FY '91 budget. Continued rehabilitation and added construction of training dikes and other modification is necessary on the Alabama River channel. Problems of navigation on the lower river have continued to plague us for many years. Remedial work needs to be done to attain greater efficiency of navigation. Operations and maintenance funding is requested to keep these programs going.

The Coosa-Alabama River Waterway continues to play a vital role in the economy of the region and the State of Alabama, serving industry and agriculture. We support the Association's funding request for FY '91.

Finally, we ask the Congress to consider amending the Water Resources Development Act of 1986 to permit Federal support of developing river basins without the participation of the Inland Waterway Trust Fund until usage of the waterway attains a feasible level of support from the users.

STATEMENT OF CARGILL MARKETING CO., INC.

Cargill Marketing Co., Inc. is a Regional grain company that operates two barge loading facilities on the Coosa-Alabama River system. We are part of a collective effort to maintain and extend this waterway and in so doing, support the Coosa-Alabama River Association's funding requests for FY 1991.

Our grain business requires an available, reliable channel when we need to ship. This has not always been the case. Particularly from the Claiborne area, inability to use the river almost doubles our transportation cost.

Maintaining and upgrading this project, along with maintaining the schedule for deepening the Mobile Harbor, will continue to allow economic shipment of agricultural products. Thank you for your past funding support for this project.

MOBILE HARBOR AND SHIP CHANNEL PROJECTS

STATEMENT OF JOHN B. DUTTON, DIRECTOR, ALABAMA STATE DOCKS DEPARTMENT

Senator DECONCINI. The committee will reconvene.

Mr. DUTTON. Senator, I am John Dutton, director of Alabama State Docks in Mobile. We have submitted to the subcommittee our testimony in regard to requirements for operations and maintenance dredging of the Mobile ship channel and harbor area for fiscal year 1991. We would respectfully request our testimony be incorporated into and made part of these public hearings.

We request that this committee increase the Corps of Engineers budget request for operations and maintenance funding of Mobile Harbor for fiscal year 1991 from $13.4 million to the Corps capability to provide full project restoration.

I would also like to request that the statement of John L. McCarron, chairman of the ports and waterways task force, Mobile Area Chamber of Commerce in Mobile, would also be submitted and made a part of the record.

Senator DECONCINI. Without objection, they will be.

Mr. DUTTON. Thank you, Senator.

Senator DECONCINI. Thank you very much, Mr. Dutton.

[The statements follow:]

STATEMENT OF JOHN B. DUTTON

Mr. Chairman, Alabama State Docks Department is again pleased to appear before this Committee to discuss requirements for operating and maintenance funding for fiscal year 1991 for the Mobile Harbor Project. We certainly appreciate the fine work that this Committee has done over the years in ensuring the viability of our nation's ports, inland waterways and water resource projects.

Our nation's ports and inland waterways systems are truly national assets with quantifiable benefits to shippers, receivers, importers and exporters.

Alabama State Docks Department, the marine terminal operator at the Port of Mobile, over the last decade has engaged in a continuing program of renovation of its existing facilities, and of new construction and expansion programs investing in excess of $260 million in continuing to expand our operations at the Port of Mobile. Alabama State Docks operates a Bulk Material Handling Plant, a Public Grain Elevator, Export Coal Handling Terminal, and general cargo facilities including wharves, piers, and warehouses as well as its own Terminal Railway. In addition, Alabama State Docks operates a number of inland port terminals throughout the river system of the State of Alabama. The Port of Mobile serves as the terminus of the Tennessee-Tombigbee, Black Warrior-Tombigbee, and Coosa-Alabama River Systems. The port complex as it exists today entails approximately 1,445 acres and is valued in excess of $400 million.

General cargo tonnages increased in 1989 from 2.3 million tons to 2.9 million tons with large increases recorded in export steel products, export forest products, and bulk cargoes continued to be of substantial and stable volumes.

Alabama State Docks facilities at the Port of Mobile provide the capability of handling the State and the country's export coal and grain products, and Mobile represents one of the few ports in the United States where exports are the much larger percentage of overall tonnages handled, thus contributing in a positive manner to the nation's trade balance.

Additional facilities now being planned at the port include an iron and steel/ heavy-lift terminal, and additional warehouses for the handling of forest products. Capital expenditures are being made to facilitate cargo handling requirements by those loyal users of the port's facilities through our inland river system, the five trunk line railroads which serve the port, and the fifty truck lines which initiate and terminate cargo in Mobile.

We have anxiously awaited our Channel Deepening Project, and we will have a 45-foot channel in Mobile this year. This has been accomplished in cooperation with the Corps of Engineers and reflects an excellent example of the federal-nonfederal partnership. In this regard, the need exists to maintain the Mobile Ship Channel and Harbor Project at full restoration, and Alabama State Docks Department respectfully requests that this Committee increase the Corps' Budget for operating and maintenance funding from $13.4 million to the Corps' capability for this project.

Again, we appreciate the opportunity to appear before this Committee and voice our support for this project and the funding requirements for Fiscal 1991.

Alabama State Docks Department respectfully requests that this statement be incorporated in and made a part of the permanent record of proceedings of these Hearings.

STATEMENT OF JOHN L. MCCARRON, JR., CHAIRMAN, PORTS AND WATERWAYS TASK FORCE, MOBILE AREA CHAMBER OF COMMERCE

This statement is presented on behalf of the over 3,200 business members of the Mobile Area chamber of commerce in support of the continued development of the fiscal year 1991 budget requirements relative to thewaterways projects in the Mobile area.

Our Task Force committee is comprised of all facets of the maritime community in the Port of Mobile, which services include pilots, tugs, towboats, agents, marine suppliers, stevedores and terminal operators. As such, we feel that our Task Force is very representative of the marine interests in our port.

The vital benefits of our port in Mobile is recognized throughout our community, as such, we are extremely grateful for your support in the deepening of our channel to 45 feet and the ongoing support and guidance in having our inner harbor once again maintained to its full project depth and width.

Of continuing concern is the necessity to maintain the draft at the Port of Mobile in its role in the movement of international commerce as well as the Port's vital role in the area's economy. Of particular importance is the appropriation request by the U.S. Army Corps of Engineers for $13,400,000.00 for operations and maintenance in our Mobile harbor.

Equally important, and for which we respectfully request that budgeting be provided for the following operations and maintenance:

Bayou La Batre, AL, $700,000; Dauphin Island Bay, AL, $200,000; Fowl River, AL, $400,000; and the portion of the Gulf Intercoastal Waterway in Alabama, $2,800,000.

The construction request of $4,000,000.00 for the flood control for the Three Mile Creek area in Mobile, AL is of extreme vital importance. This flood control project is essential to the economic well being of Mobile as well as relieving a terrible situation which occurs in times of heavy rainfall.

The seafood industry at Bayou La Batre, AL is currently facing economic hardships in many areas and, as such, we heartily endorse and support the appropriation study request for $350,000.00 to improve operations of this vital seafood port.

We have furnished a statement of support to our friends at the Warrior-Tombigbee Development Association and would request that all consideration possible be given to increasing the operations and annual maintenance appropriations for fiscal year 1991 over the Corps budget requests.

We appreciate and thank you for the opportunity to present this statement to the committee in support of fiscal year 1991 budget allocations as stated above. We respectfully request that this statement be included and made a part of the permanent record of these hearings.

WARRIOR-TOMBIGBEE WATERWAY

STATEMENT OF OFFA S. NICHOLS, JR., PRESIDENT, WARRIOR-TOMBIGBEE DEVELOPMENT ASSOCIATION

Senator DECONCINI. Next we will have Offa Nichols, Jr., president, Warrior-Tombigbee Development Association.

Mr. NICHOLS. Our formal testimony has been submitted along with statements from some 25 companies that support it.

Senator DECONCINI. It will all appear in the record.

Mr. NICHOLS. The Warrior-Tombigbee Waterway, sir, runs from the area northwest of Birmingham, AL, to Tuscaloosa, to Mobile, and now with the Tennessee Tombigbee link completed through, the Tennessee-Tombigbee is connected to the Tennessee River.

The system opened to navigation in 1915. Shortly after World War II, a modernization project was undertaken with the assistance of the Congress and the Corps of Engineers. Studies done at that time indicated that were the waterway to be modernized, that the system would carry some 8 million tons of traffic by 1980 which would justify the Federal investment in the project.

What happened? There were 8 million tons of traffic in 1966, and by 1980 over 16 million tons and now 20 million tons. It has been a project that has fulfilled all of the claims that have ever been made for it.

I am here to testify for two appropriations. One, construction money for the Oliver Lock and Dam being built at Tuscaloosa, AL, authorized in the Water Resource Development Act of 1986, well along in construction.

As a matter of fact, we expect next year to navigate through that lock, that being the first new lock to be built completely under the Water Resource Development Act. There is $5.5 million requested for that, half of which comes from the inland waterway trust fund. It seems to be a small amount, but it is the correct amount for this particular cycle of the construction project.

The other part that we are asking for is the money for the O&M project. We have problems with that. The $9.3 million that the Corps has been permitted to include in their budget is in no way related to actual requirements and in no way related to what the actual expenditures have been for the last 5 to 8 years. It is about $4 million short.

The history of the Warrior-Tombigbee project illustrates that Federal moneys that have been asked for and appropriated in the past have been seed moneys, investment money that paid off many, many times. Within the 1980's, over $2.5 billion has been invested by non-Federal interests on that waterway system, during which time the Federal investment has been about one-tenth of that.

So, what we would like to leave you with is that the committees have been very helpful to us in the past. We have been able to take the money that has been provided and to deliver very good and effective results. We ask you to continue to support the project and we commit to you that if you do we will keep doing what we have been doing, and that is making the best use of it.

Thank you.

Senator DECONCINI. Thank you. Your statement and the explanation you have here are very helpful to the committee and they will be carefully considered for the committee's full markup.

Thank you, sir.

[The statements follow:]

STATEMENT OF OFFA S. NICHOLS, JR.

I am Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association. My colleagues and I appreciate the opportunity to appear here today, both to thank you for your support over the years and to tell you why we need your continued support.

My remarks will be very brief as we are submitting a detailed statement in the prescribed format with numerous grass roots supporting statements; and perhaps of most importance, the results of your past support almost speak for themselves.

The Warrior-Tombigbee Waterway continues to be a real success story, and illustrates the positive results of Water Resource Development as it is intended by the Congress through the Civil Works Program.

When our group began its partnership with the Congress and the Corps in 1949, the Waterway was all but inactive because of the deteriorated condition of some 14 circa 1915 locks and dams, and its annual tonnage was about 2½ million. But studies authorized by the Congress showed great potential through modernizing the project, projecting growth to 8 million tons by 1980.

What happened? Five (5) new locks and dams were completed between 1954 and 1975; and, true to promise, traffic grew to 8 million tons—but in 1966, not 1980. In 1980, there were almost 17 million tons, and now almost 20 million tons. Now, thanks to the Appropriations Committees, our last old lock is being replaced. The new Oliver Lock at Tuscaloosa, Alabama, is leading the way in the revived civil works program. We were ready to begin the contracting process and construction even before the ink was dry on the Water Resource Development Act of 1986. As we sit here today, work is going well, and we look forward to seeing the first tow go through this lock in 1991.

There has been much local investment. In the past 6 to 8 years alone, $1 billion by the coal interests, another $1 billion by the steel industry in Birmingham and Tuscaloosa. It is interesting to note that one single local agency—the Alabama State Docks—has over the recent past invested over $250 million in expanding to meet projected requirements. This alone is more than the total federal investment in all the locks and dams on the Warrior-Tombigbee Waterway, including the new Oliver Lock. They are now expanding further, through better facilities for wood products and for iron and steel. During 1989, the Port of Mobile became the leading Forest Products Port on the Gulf Coast, and major shipments of pipe and coil went to world markets.

During the summer of 1988 when the Lower Mississippi was all but closed by the draught, there was a great surge of traffic, as shippers used the alternate route available via the Tenn-Tom and Warrior-Tombigbee. Traffic reached an annual rate almost double any prior experience. I wish we knew how many jobs and dollars were saved, and of the contributions to the credibility of our shippers as reliable suppliers in the marketplace.

The Warrior-Tombigbee is a good project, its credibility proven by its performance to date. We support the funds requested by the Corps in the budget request. But we have a problem: If we are to protect the efficiency and reliability of the waterway, we need some additional capability funding, and the need is serious. First, the $9.3 million the Corps has been permitted to request in the proposed budget is totally inadequate. It is almost $4 million below the 5-year average, and more than $4 million below 1989 and 1990. $9.3 million will not support the regular day-to-day O&M

program, particularly in view of the record flooding during the winter. Second, following years of increasing traffic and then unprecedented flooding a few years ago, the corps prepared a report setting forth a plan to deal with the impact of this flooding; and measures to alleviate recurring seasonal problems. Short range items have been completed, and several intermediate range items are well along. But without additional capability funding, these projects will stop and we will not reap the benefits of the study, planning, design, and testing done to date.

The Corps had not been able to release an approved figure when we prepared our formal statement. However, based on regular planning sessions and periodic status reviews with the Corps on the O&M program, I am confident of what is required; hence our inclusion of the additional $4 million beyond the Corps' budget request. I regret to say that the $9.3 million figure can only be labeled arbitrary and without merit. It will not meet minimum requirements.

Over the past decade, the non-federal investment has been over $2.5 billion, well over ten times the federal share, even including the new Oliver Lock. As in the past, we believe the dollars we are seeking will prove to be wise investments.

Thank you for your continued support.

SUMMARY OF THE REQUEST

The following is a summary of the funding items for the U. S. Army Corps of Engineers for FY 1990 which bear on the needs of the Warrior-Tombigbee Waterway, and which we ask the Committee to approve:

Warrior-Tombigbee Waterway: Operations and maintenance funds, included in Corps' budget request, $9,292,000; funds for additional capability for O&M, not included in Corps' budget request, $4,000,000; total O&M funds required, $13,292,000. Funds for new construction, included in Corps' budget request—Oliver Lock, $5,500,000; total new construction funds required, $5,500,000. Other needs allied to the Warrior-Tombigbee are: Mobile Harbor: Operations and maintenance funds, included in Corps' budget request, $13,400,000.

We wish to highlight the item identified above as "Additional Capability". Since funds for this item were not included in the Corps' Budget Request, it is not likely that the committee has been informed of the essentiality of funding for this Additional Capabilities. We emphasize the need for additional O&M Capability funds if we are to have an adequate current year program, and to support on-going projects designed to improve safety and efficiency, and to reduce future costs. Additional funds are particularly critical for fiscal year 1991.

Written statements of support are attached.

STATEMENT OF OFFA S. NICHOLS, JR.

I am Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association. Our members represent a broad cross-section of shippers, carriers, and the general business community in the Warrior-Tombigbee basin in Alabama, and seven other states. The Association began in 1949 to work for the redevelopment of the Warrior-Tombigbee Waterway System. Construction of the original 11 locks and dams began in the late 1870's and was completed in 1915. The navigation system provided by these locks and dams had gradually deteriorated, and following World War II, the annual tonnage had leveled off at 2.5 million tons, due to the condition and limited capacity of the obsolete locks.

The Association's objectives have been not only the replacement of the outmoded locks and dams and improvements in the Port of Mobile area, but also the appropriation of sufficient O&M funds to support efficient and reliable navigation, Congress has generally appropriated the necessary funds to support these objectives. There are now only six (6) locks in the 400-plus miles from the head of navigation, located northwest of Birmingham, to the Port of Mobile. During the studies which resulted in this redevelopment, it was projected that by 1980, the Waterway would carry some 8 million tons annually. These levels were reached in 1966, and by 1980, twice the projected tonnage was being moved on the Waterway. Traffic has since reached a peak of 22 million tons.

With the completion of the new William Bacon Oliver Lock in 1991, the Warrior-Tombigbee Waterway will have a system of modern and standard-sized locks throughout its length. Together with the other five locks opened between 1954 and 1975, this system represents a noteworthy example of the positive impact of the water resource development program. The most persuasive evidence of the validity of this project and the wisdom of those who made it possible comes from the record as stated above. The record shows that, since the modernization of the Warrior-Tombigbee Waterway began, traffic has increased from just over two million tons annually to 22 million tons, more than double what had been projected.

During this decade, due in large part to the modernization of this waterway, several billion dollars have been invested by industry, farmers, and other non-Federal governmental agencies, providing thousands of jobs. The Alabama State Docks' as a result of a recently completed $250 million expansion program, now offers the most advanced coal handling technology available in this country, along with similar improvements for grain handling and bulk materials. It is interesting to note that the investment by this one local agency exceeds the later Federal investment in building all the locks and dams on the entire waterway, including the new Oliver Lock. Now even more expansion is underway to handle increased shipments of forest products as well as iron and steel products. We are asking for the continuation of federal investments which pay off many fold.

Today's traffic and ever increasing demands require that the Waterway operate at peak efficiency on a full-time basis. Shipments of ore, steel, and related products are increasing because of the new and modern manufacturing facilities at U.S. Steel. The continued efficiency and modernization of the waterway were important factors in U. S. Steel's recent decision on even further modernization of their Fairfield facilities—clearly a major factor in the survival of Fairfield as a viable facility. This brings U. S. Steel's investments during this decade to about $1 billion. A $100 million mini-mill has been built near Tuscaloosa—the first such new facility to be built in this country in 19 years. Production is well ahead of projections, including increasing amounts going to international markets. Major mining interests and marine equipment and facilities account for another $1 billion in investment. The efficiency and reliability of the waterway will be significant factors in the competitiveness of these new facilities. Thousands of jobs hang in the balance.

There are other commodities moving on the waterway, such as other ores, crude and fuel oils, other steel products, chemicals, aggregates, and now, by substantial increased tonnages of forest products. Forest products are becoming major factors in the export markets. Related industries, though still impacted by the competitive international markets, are growing and modernizing.

These are but examples of how this waterway is so central to the economy of this entire area, impacting both domestic and international markets. Attached with this statement are letters further highlighting this importance I hope you will note the wide range of interests represented by these statements. Included are financial institutions; public utilities; both deep water and inland port facilities, representing both public and private ownership; coal mining, both deep and surface; manufacturers; agri-business; suppliers; constructors; and, of course, marine interests. These represent a broad cross-section of the economic heartbeat of an entire region. Throughout these statements you will find repeated references to the importance of confidence in the waterway to the willingness of business and industry to continue to invest in our area.

With respect to the actual funding needs, we support the Corps' request for O&M funds for the Warrior-Tombigbee. However, the requested level of funding, $9.3 million, will not support the kind of O&M program essential to keeping the system reliable and efficient. The funding requested is more than $4 million less than the average requirement over the past several years for day-to-day operations, and is not adequate to support normal and efficient operations during fiscal year 1991. Nor will these funds permit the continuation of on-going programs designed to correct deficiencies of long-standing, and to handle the increased traffic on an efficient, long-term basis. Work is being done to reduce sedimentation and shoaling, which will reduce O&M costs in future years. Non-structural measures are underway which will increase efficiency and traffic flow through several reaches of the Waterway, thereby enhancing its ability to handle the much greater traffic than had been anticipated. These measures result from studies conducted following the unprecedented and destructive flooding in 1979 and 1980. They are part of the intermediate range actions subsequently approved to deal with the impact of these conditions, and to ameliorate the recurring effects encountered during all but ideal flow conditions. To stop or significantly delay these projects would be a severe blow to the current efficiency and reliability of the channel, and even worse on its future. At the time of the preparation of this statement, the Corps had not released the approved "additional capability" figures, and based on recent experience, we will not know what the approved figure is at the time of the hearings on March 27, 1990. They have, however, released documents showing an overall capability need of $22,982,000. However, based on a close following of these projects and the known deficiency in the O&M budget request, the additional need for fiscal year 1991 is a minimum of $4.0 million.

We support the New Construction funds as indicated in the Corps' request. These funds will support the orderly continuation of the construction of the new Oliver Lock. Through the wisdom and steadfast support of the Appropriations Committee, it was possible to accomplish the planning, design, and initial construction at Oliver on an orderly and efficient basis. The construction phase is progressing satisfactorily, and with these funds, we are confident that the project will remain on schedule. Inclusion of the entire Federal share of $2.75 million for Oliver Lock is critical as this will be matched by an equal amount from the Inland Waterway Trust Fund to product the required $5.5 million. Therefore, any reduction would be doubly detrimental.

SUMMARY OF FUNDS REQUESTED

Warrior-Tombigbee Waterway: Operations and maintenance funds included in Corps' budget request, $9,292,000; funds for additional capability for O&M, not included in Corps' budget request, $4,000,000; total O&M funds required, $13,292,000. Funds for new construction, included in Corps' budget request—Oliver Lock, $5,500,000; total new construction funds required, $5,500,000. Other needs allied to the Warrior-Tombigbee are: Mobile Harbor: Operations and maintenance funds, included in Corps' budget request, $13,400,000.

We believe the Warrior-Tombigbee Waterway is a classic example of the positive aspects of the Civil Works Program. The Congress has seen its potential and has supported its program. And now the project continues to demonstrate its worth, having more than doubled the projected annual tonnage and benefits.

During the severe draught in 1988, this waterway operated normally, and with the Tennessee-Tombigbee provided an alternate route for cargo unable to move otherwise. Annual tonnage rates more than doubled again during part of this period.

We fully endorse and seek the approval of these items. I, as President of the Warrior-Tombigbee Development Association, our other Officers, Board of Directors, and our Members, appreciate the consideration of the Chairman and members of this Subcommittee and its staff have shown us over the years. I wish to emphasize that the funds which we seek are of investment category, not expense. This is seed money, spawning reinvestment many times over. We ask for your support once again.

We are attaching additional written statements of support, along with a witness list, representing a cross-section of business, industry, and the public.

Thank you for your consideration. We stand ready to answer questions.

WARRIOR-TOMBIGBEE DEVELOPMENT ASSOCIATION

LIST OF STATEMENTS—1990

Alabama Electric Cooperative, Andalusia, Alabama; Alabama Power Company, Birmingham, Alabama; Alabama State Docks Department, Mobile, Alabama; American Cast Iron Pipe Company, Birmingham, Alabama; American Commercial Barge Line Company, Harahan, Louisiana; Buffalo Rock Company, Birmingham, Alabama; Cargill Marketing Company, Inc., Mobile, Alabama; Dravo Basic Materials Company, Inc., Mobile, Alabama; Drummond Coal Company, Jasper, Alabama; First Alabama Bank, Mobile, Alabama; Gulf Power Company, Pensacola, Florida; Harrison Brothers Dry Dock & Repair Yard, Mobile, Alabama; Hunt Refining Company, Tuscaloosa, Alabama; Mississippi Power Company, Gulfport, Mississippi.

Mobile Area Chamber of Commerce, Mobile, Alabama; Parker Towing Company, Tuscaloosa, Alabama; South Central Bell, Birmingham, Alabama; Southern Company Services, Inc., Birmingham, Alabama; SouthTrust Bank of Alabama, Birmingham, Alabama; State of Alabama, Montgomery, Alabama; Tenn-Tom Towing Company, Mobile, Alabama; Thompson Tractor Company, Birmingham, Alabama; Tuscaloosa Steel, Tuscaloosa, Alabama; Volkert & Associates, Inc., Mobile, Alabama; Jim Walter Resources, Inc., Brookwood, Alabama; and Warrior & Gulf Navigation Company, Chickasaw, Alabama.

LIST OF WITNESSES—1990

The Honorable Howell Heflin, Senator, Alabama; the Honorable Richard Shelby, Senator, Alabama; the Honorable Glenn Browder, Member of Congress, Alabama; the Honorable Sonny Callahan, Member of Congress, Alabama; the Honorable Bill Dickinson, Member of Congress, Alabama; the Honorable Ben Erdreich, Member of Congress, Alabama; the Honorable Ronnie Flippo, Member of Congress, Alabama; and the Honorable Claude Harris, Member of Congress, Alabama.

Representing Governor Guy Hunt: Mr. Walter Stevenson, Jr., Alabama Department of Economic and Community Affairs. Mr. N. J. Barchie, Jr., Chairman, Warrior-Tombigbee Development Association, and President, Warrior & Gulf Navigation Company; Mr. Bill Guthrie, Vice Chairman, Warrior-Tombigbee Development Association, and Executive Vice President, Alabama Power Company; Mr. Offa S. Nichols, Jr., President, Warrior-Tombigbee Development Association; Mr. John Dutton, Director, Alabama State Docks Department; Mr. R. A. Guthans, President, Tenn-Tom Towing Company; Mr. Buz Heggeman, Vice Chairman, Ports and Waterways Task Force, Mobile Area Chamber of Commerce; Mr. John L. McCarron, Jr., Chairman, Ports and Waterways Task Force, Mobile Area Chamber of Commerce; and Mr. Sheldon Morgan, Senior Vice President, First Alabama Bank/Mobile.

STATEMENT OF GOV. GUY HUNT OF ALABAMA

Dear Mr. Chairman, once again, it is a pleasure to join with the members and friends of the Warrior-Tombigbee Development Association to participate before this Subcommittee in support of continued federal funding of the federal water resources projects on the Black Warrior and Tombigbee rivers.

The Association has been instrumental in the continued success of the inland waterways, not only the Warrior-Tombigbee River waterway, but support of the national inland waterway system.

I support your consideration of the request of the Warrior-Tombigbee Development Association. Specifically, we support the level of funding necessary to provide for the continued full operation and maintenance of the Warrior-Tombigbee Rivers navigation channel. In addition, I join with the Association in requesting your support for an orderly continuation of ongoing activities of the Corps of Engineers to address long-standing deficiencies of the system including adequate dredge materials disposal areas.

It is our understanding that the proposed funding for continued construction of the replacement of the Oliver Lock and Dam will be adequate for a timely completion of the project.

I would also suggest that your Subcommittee undertake an evaluation of the criteria being used by the Corps of Engineers under the Water Supply Act of 1958 for reallocation of federal reservoirs from the specific Congressional authorizations—especially, the procedure to determine the "significance" of reallocations on project purposes. In addition, determine if it was the intent of Congress under this Act to delegate to the Corps of Engineers authority to change project purposes without specific Congressional action.

I would like to take this opportunity again this year to request your continued support for adequate funding of Section 22, under Public Law 93-251, which authorizes the Corps of Engineers to provide technical planning support to Alabama.

Last year, I reported to you on the creation of the Alabama Water Resources Study Commission. They are currently in the process of developing recommendations on the future direction of Alabama's water resource activities. I am confident they will address the need for an even closer partnership between the state and federal governments and water resource development, to the benefit of Alabama and the Nation.

I thank you for your continued personal support of the water resource development and the wise utilization of our natural resources.

STATEMENT OF JOHN B. DUTTON, DIRECTOR, ALABAMA STATE DOCKS DEPARTMENT

Mr. Chairman, Alabama State Docks Department is again pleased to appear before this Committee on behalf of the Warrior-Tombigbee River System, and we thank the members of this Committee for your dedication in undertaking this important task.

This nation's inland waterway system is a true national asset with quantifiable benefits to the shippers, receivers, importers and exporters of our nation. This Committee over the years has done a most admirable job in greatly enhancing utilization of this tremendous national resource.

The Warrior-Tombigbee River System is one of the heavier utilized waterways in the United States, and its operation and maintenance are of vital importance to the State of Alabama and Alabama State Docks.

Alabama State Docks Department over the last ten years has engaged in a continuing program of renovation of its existing facilities and of new construction and expansion programs, investing in excess of $250 million. We have put into place at the Port of Mobile the newest and most technologically advanced deep-water cargo handling facilities in the United States. The Port of Mobile is at the southern terminus of shallow-draft navigation on the Warrior-Tombigbee River System, and we highly value the cargo generated by the waterway.

The Department's Bulk Handling operations at the Port of Mobile are vital to the whole Mid-America Region of the United States as well as the State of Alabama, and in concert with our Inland Waterway System, functions as an expedient and cost-effective means of shipping products produced and manufactured in the State of Alabama and in Mid-America into world markets.

In the early years, the Warrior-Tombigbee Waterway was the cost-effective catalyst for moving large volume coal shipments from the northern part of the State through the Department's McDuffie Terminal Coal facilities for export all over the world. In addition, shipments of grain move annually from inland elevators located on the Warrior-Tombigbee Waterway by barge to the Port of Mobile for subsequent export to consuming nations in the Far East and Europe.

The highly competitive posture of Alabama State Docks and the Port of Mobile is a direct result of the Port's enviable inland transportation infrastructure. Four major rail lines and one regional carrier serve the Port of Mobile; however, it is the State's inland river system that continually gives the Port its competitive edge in the world market.

The Warrior-Tombigbee provides a major transportation artery for large volume bulk shipments moving to and from the Port, and the Waterways continued operation and maintenance are of a vital importance to Alabama State Docks, the Port of Mobile and the State of Alabama.

We join with Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association, in his testimony with respect to the Corps' Budget for fiscal year 1991 funding and support the Budget request for $9.3 million in operating and maintenance funds and $5.5 million in continued construction funds for the Black Warrior-Tombigbee and Oliver Lock. There is, however, a need indicated, and we do support additional funding to the Corps of Engineers capability in an amount sufficient to support continuation of ongoing work.

This River System constitutes an integral part in local, national and international trade, and we at Alabama State Docks Department fully support its continued growth and development.

STATEMENT OF BUFFALO ROCK CO., BIRMINGHAM, AL

Dear sir, our company operates in the states of Alabama, Florida, and Georgia, and our headquarters are in Birmingham and one of our other operations is in Mobile, therefore, the Warrior-Tombigbee Waterway is most important to the economic wellbeing of the area that we work in.

Two of the most important reasons for the Waterway are that it helps to keep other transportation costs in line from a competitive angle and it adds much to the future economic development of the areas that we work, and we think the Waterway will continue to grow in usage in the decades ahead.

We certainly support the Corps' budget request for $9.3-million in O&M funds and $5.5-million in construction funds for the Black Warrior-Tombigbee and Oliver Lock. We also hope that you will add additional capability funds sufficient to support continuation of the ongoing channel efficiency work. We also support the Corps' budget request for O&M and construction funds to continue the deepening project at Mobile Harbor.

Thank you for your consideration for these important projects.

STATEMENT OF VAN L. RICHEY, PRESIDENT AND CHIEF EXECUTIVE OFFICER, AMERICAN CAST IRON PIPE CO.

Dear Senator Johnston, I request your approval of the fiscal year 1991 Corps of Engineers funding request for the Warrior-Tombigbee Waterway and the Port of Mobile. I believe that the $9.3 million for Operations and Maintenance Funds and the $5.5 million in construction funds for the Black Warrior-Tombigbee and Oliver Lock should be increased to provide for "additional capability" funds sufficient to support continuation of the on-going channel efficiency work. In addition, I also request your support for the O&M and Construction Funds needed to continue the deepening project at Mobile Harbor.

ACIPCO exports approximately 50,000 tons per year through the Port of Mobile. In previous years, we have shipped substantial export pipe tonnage by barge on the

Warrior-Tombigbee Waterway. We expect to do so again in the future. The Warrior-Tombigbee is also important because of raw steel that is imported to Tuscaloosa Steel Corporation (with whom we are in partnership) which is one of our major suppliers of steel skelp with which we manufacture a superior quality steel pipe for oil and gas pipeline service. Finally, we are currently using the waterway for movements of steel skelp from Tuscaloosa to Port Birmingham for subsequent movement by rail into our Birmingham plant.

I will be most appreciative if the Subcommittee will afford Colonel Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association, every consideration when he presents the Association's testimony. We, at ACIPCO, join in the collective effort to improve the efficiency and reliability of the Warrior-Tombigbee Waterway.

I look forward to your favorable decision regarding this most important project. With best regards.

LETTER FROM JAMES A. VANN, JR., EXECUTIVE VICE PRESIDENT AND GENERAL MANAGER, ALABAMA ELECTRIC COOPERATIVE, INC.

MARCH 1, 1990.

Re FY 1991 Corps of Engineers funding for Warrior-Tombigbee Waterway and Port of Mobile.

Hon. J. BENNETT JOHNSTON,
Chairman, Subcommittee on Energy and Water Development, United States Senate, Washington, DC.

DEAR MR. CHAIRMAN: On behalf of Alabama Electric Cooperative, Inc. (AEC) and its member systems, I would like to request your continued support of the fiscal year 1991 Corps of Engineers' funding for the Warrior-Tombigbee Waterway and the Port of Mobile.

Water transportation is vital to AEC because it is the most economical way to ship coal to our Lowman Power Plant. Therefore, I urgently request that adequate funding be appropriated for the Warrior-Tombigbee Waterway and the Port of Mobile. Our member systems count on us for reliable, low cost electricity. Keeping our fuel transportation cost down is one very important way to insure our rates will remain as low as possible. A more detailed statement is attached relating to this matter.

I would like to take this opportunity to thank you for your past efforts in this matter, as well as other areas related to the rural electric program. I sincerely hope that you lend your support to see that the Corps of Engineers' budget request is approved.

Sincerely yours,

JAMES A. VANN, Jr.,
Executive Vice President and General Manager.

STATEMENT OF ALABAMA POWER CO.

Alabama Electric Cooperative, Inc. (AEC) and its twenty-two member systems fully support the testimony of Col. Offa S. Nichols, Jr., President, Warrior-Tombigbee Development Association, before your Subcommittee. As a member of the Warrior-Tombigbee Development Association, AEC joins with this association in its endeavor to improve the efficiency and reliability of the Black Warrior-Tombigbee Waterway and the Port of Mobile.

AEC is a generation and transmission electric cooperative which supplies wholesale power to sixteen distribution cooperatives, four municipalities and two industries in central and south Alabama and northwest Florida. The distribution cooperatives and municipalities serve approximately one-half million consumers in sparsely populated areas. Because of these sparsely populated service areas, the cost associated with the distribution of electric energy is substantially greater than in heavily populated urban areas of the country. Therefore, these non-profit, consumer-owned entities operate on extremely thin margins, which means that anything significantly affecting the cost of generation, transmission or distribution of electric energy is of utmost concern and interest to AEC and its member systems.

AEC's Lowman Power Plant is a coal fired generating plant located at mile-point 89 on the Black Warrior-Tombigbee Waterway. The majority of the electrical energy which AEC delivers to its members is generated at the Lowman Plant. This electrical energy is delivered over AEC's transmission system and is also wheeled over other companies' transmission systems when the need arises. The first 75 MW unit was installed at the Lowman Plant during the 1960's. In the 1970's the Lowman Plant was selected for the installation of two 235 MW coal-fired units. The major consideration in selecting the Lowman Plant site was the availability of lower cost barge transportation via the Black Warrior-Tombigbee Waterway. The lower cost barge transportation resulted in lower electrical power cost for AEC meter consumers. Over 1.1 million tons of coal were shipped to the Lowman Plant in 1989 to generate the electrical energy to meet the needs of its members and increases are predicted into the mid 1990's. Although coal may be transported by rail as well as barge to the Lowman Plant, 56% of the coal was moved to the plant via barge in 1989 because the barge transportation expense is considerably less than rail.

A future generating site on the Black Warrior-Tombigbee Waterway has been purchased by AEC. This site is approximately 50 miles north of the Lowman Plant. One of the major factors in the selection of this site was the availability of water transportation. AEC is anticipating installing new base load generation on this site in the mid to late 1990's.

AEC's 1989 fuel cost was approximately $47.3 million of which $8.1 million was transportation cost. The $47.3 million represented 29% of AEC's operating cost in 1989 with transportation being 5%. With fuel and transportation expense making up such a large percent of AEC's operating cost, any change in this area has a significant affect on the cost of electrical energy to its members.

AEC supports the Corps of Engineers' budget request for $9.3 million for operation and maintenance funds for the Black Warrior-Tombigbee Waterway and the $5.5 million in construction funds for the replacement of the Oliver Lock. "Additional capability" funds sufficient to support the Corps continuation of the on-going channel efficiency work on the Black Warrior-Tombigbee Waterway is also supported by AEC.

Even though AEC does not use the Port of Mobile directly, it supports the Corps' budget request for operation, maintenance, and construction funds to continue the deepening project at Mobile Harbor. The Port of Mobile has a very favorable impact on the economy of Alabama and the other states connected by the inland waterway system by providing an efficient seaport from which goods might be exported and imported.

LETTER FROM BILL M. GUTHRIE, EXECUTIVE VICE PRESIDENT, ALABAMA POWER CO.

FEBRUARY 21, 1990.

Hon. J. BENNETT JOHNSTON,
Chairman, Subcommittee on Energy and Water Development, United States Senate, Washington, DC.

DEAR SENATOR JOHNSTON: The Warrior-Tombigbee Waterway is vital to the economic health of Alabama. The state's water transportation system must be efficient and well-maintained for the basic industries, such as mining and heavy metals, to provide a sound economic base for the state and for Alabama to enjoy economic growth.

Alabama Power Company's continued interest in the Warrior-Tombigbee Waterway is two-fold. First, our business is dependent on the general economic health of the state; and, second, we are a primary user of the waterway. For nearly three decades, we have used economical water transportation to deliver coal to two of our major electric-generating plants.

Four of Alabama Power Company's seven-fossil fueled, electric generating plants are located on the Warrior-Tombigbee Waterway system. Coal from the Warrior coal field is delivered to two plants near the coal field and loaded into barges for shipment to two generating plants in the southern and central parts of Alabama. The 1,525-megawatt Plant Barry in Mobile County, which began operation in 1954, is supplied primarily by the Warrior-Tombigbee Waterway, as is the 500-megawatt Plant Greene County near Demopolis.

We are pleased that funds have been budgeted to continue construction of the new Oliver Lock. The pre-World War II Oliver Lock's capacity is inadequate, and this creates a bottleneck which impedes efficient operations on the river. Also, adequate funds for operation and maintenance must be made available to the Corps of Engineers to continue efficient operation of the waterway and to avoid expensive and unnecessary interruptions to river traffic.

Alabama Power Company received 4.69 million tons of coal in 1989 which were transported on the Warrior-Tombigbee Waterway. This represented 31 percent of the 14.9 million tons used to generate electricity for our customer's use. Failure to replace Oliver Lock or to properly maintain the waterway can have a significant adverse effect on the cost of providing electric service to Alabama Power Company's over 1,000,000 customers.

Alabama Power Company supports the collective efforts of the Warrior-Tombigbee Development Association, of which it is a member, to obtain the replacement of Oliver Lock and to obtain for the Corps of Engineers an adequate operations and maintenance budget which will insure the long-term efficient and economical viability of the waterway.

Sincerely,

BILL M. GUTHRIE.

STATEMENT OF CARGILL MARKETING CO., INC.

Cargill Marketing Co. Inc. is a Regional grain company operating country elevators in five Southern States. Two are barge loading facilities on the Warrior-Tombigbee Waterway and directly affected by the navigability of the system.

This system has provided reliable, low cost transportation to the surrounding agricultural production area. Grain production including corn, soybeans and soft red winter wheat moves into the export market through the Mobile Public Elevator.

We are interested in seeing this waterway maintained and upgraded. The testimony of Mr. Offa S. Nichols, Jr. President of the Warrior-Tombigbee Development Association supports this position. We are in favor of the Corp's budget request for $9.3 million in operation and maintenance funding as well as the $5.5 million construction funding for the Black Warrior-Tombigbee and Oliver Lock.

Additional capability funding is needed, however, to support the continuation of the on-going channel efficiency work. The proposed O&M funding of $9.3 million is some $3 million under the current five year average. This is unacceptable and needs to be raised. The maintenance and improvement of this system effectively ties into the progress being made on the Mobile Harbor deepening project. We would also ask that you support the Corp's budget request for O&M and construction funds for the Mobile harbor deepening.

Thank you for your past support on these projects.

STATEMENT OF DRAVO BASIC MATERIALS CO., INC.

The Warrior-Tombigbee Waterway along with the other waterways of the State of Alabama are invaluable links to a successful Port of Mobile and the economic growth in South Alabama. Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association, will present testimony stressing the need for maintaining and enhancing the efficiency and reliability of the Warrior-Tombigbee System as well as the importance of low-cost, energy efficient water transportation to local, national and international trade. We fully support and endorse his testimony.

Dravo Basic Materials Company, Inc. is one of the leading producers of construction raw materials and aggregates on the Gulf Coast. We rely extensively on the waterways of Alabama, Florida, Louisiana, Mississippi and Texas for production and delivery of our products. In 1989 we transported via Alabama waterways in excess of 1,250,000 tons of sand and gravel. We also transported over 250,000 tons of limestone as well as significant quantities of other products. Our projections for 1990 are: Sand and gravel, 1,500,000; and other, 500,000.

Dravo Basic Materials Company, Inc. operates a fleet of 23 boats, 85 barges and 7 dredges. We maintain a large terminal and handling facility on McDuffie Island in Mobile, Alabama in addition to numerous support facilities throughout South Alabama and the Gulf Coast.

The maintenance of authorized project dimensions is essential for the efficient, orderly production and delivery of materials throughout the waterway system. In order to provide this capability, it is imperative that the Army Corps of Engineers be provided with the appropriations necessary to continue the maintenance and development of the Warrior-Tombigbee Waterway System as requested, although we feel this budget request is presently inadequate and needs to be increased for fiscal year 1991.

It is also requested that additional funds be provided to insure that the Corps has the capability and flexibility necessary to maintain the utilization of the Waterway System and Mobile Harbor. Additionally, the continued provision for funds to replace the outmoded Oliver Lock and Dam should not be overlooked.

We sincerely appreciate the Committee's faith in the future of the State of Alabama and welcome its continued support of these vital projects.

STATEMENT OF DRUMMOND COAL SALES, INC.

The following is a statement in support of improving the efficiency and reliability of the Warrior-Tombigbee Waterway and the Port of Mobile.

Drummond Coal Company was founded in 1935 by Mr. Heman Drummond who developed his first mine underground near Sipsey, Alabama. It was a drift mine, angling into a hillside from which men dug and mules hauled the bituminous Appalachian coal. Many of Mr. Drummond's customers were local people who needed coal for home heat. As his sons grew up, they joined him and the family opened their first surface mine using small diesel shovels. Half a century has passed since Mr. Drummond produced his first ton of coal.

Today, Alabama is a major coal producing and exporting state. Drummond Coal Company is the largest surface coal producer, one of the largest coal exporters in the southeastern United States, and one of the top twenty noncaptive bituminous coal producers in the nations. Drummond serves metallurgical, utility and specialty coal customers on four continents from mines in six counties in north central Alabama. Drummond Coal Company alone presently employs in excess of 4,500 people with an annual payroll of approximately $120,000,000.

About 90 percent of the state's coal productions, including most of Drummond's comes from the Warrior Field located in north-central Alabama. The Warrior Field or Warrior Basin as it is also known, is a basin-like geological structure covering more than 3,500 square miles and underlying parts of Winston, Marion, Fayette, Tuscaloosa, Cullman, Blount, Jefferson and all of Walker County. The field is cut through by the Warrior River system which has led to development of mines using water transport.

Alabama's system of riverways offers water transport of national and international destinations via the McDuffie Coal Terminal at the year-round Port of Mobile on Alabama's Gulf Coast. Barging in Alabama is a particularly good way to move coal because of the extent of Alabama's waterways and because of the coal handling facilities available.

Drummond ships this coal from five different coal loading facilities located at various points on the Warrior River system, two of which are company owned and operated. Drummond owns and operates a barge loading facility located at milepost 354 on the Warrior River in conjunction with its Kellerman mining operation. This barge loading facility handles about 1,400,000 tons of production at the Kellerman Mine and 3,000,000 tons of production for the Jim Walter Corporation. Another company owned barge loading facility is located at milepost 401.5 on the Locust Fork portion of the Warrior River in conjunction with Drummond's Short Creek operation. This barge loading facility has the potential to handle approximately 1,000,000 tons per year at Port Birmingham which is located at milepost 399 on the Warrior River.

Obviously, reliance upon Alabama's efficient system of waterways has been a very integral part of Drummond Coal Company's planning and operations to date. Availability of an economical and efficient mode of transportation is important to any industry in getting the product to market; however, because of the national and international markets for coal, efficient transportation modes are even more critically important to the coal industry.

We, at Drummond, urge your committees to support the proposed O&M money of $9.3 million for the BWT and the $5.5 million in construction funds for the Black Warrior-Tombigbee and Oliver Lock, but feel that this will be at a level that could be dangerously low to carry on the maintenance programs that we need so badly. We request additional capability funds sufficient to support continuation of the ongoing channel efficiency work.

We also support continuing O&M and construction funds to continue deepening the harbor at the Port of Mobile.

By transporting its high quality coal product by an available and efficient waterway system, Drummond has been able to compete with other coal exporting nations in a successful manner and has contributed to reducing the current national trade deficit.

Drummond Coal Company is a member of the Warrior-Tombigbee Development Association. We strongly support the testimony given today by Mr. Offa S. Nichols, Jr., President of the Association, and heartily endorse the collective effort of the Association to improve the efficiency and reliability of the Warrior-Tombigbee Waterway. Traffic on the waterway presently represents only a small percentage of the river's ultimate capacity; given the needed improvements to the Oliver Lock and a continued commitment to a federally constructed and maintained inland waterway system are granted. Certainly, the federal investment in the Warrior-Tombigbee

River System has paid dividends many times over with the improved economic development in the area which the Warrior-Tombigbee River System serves.

STATEMENT OF FIRST ALABAMA BANK, MOBILE, AL

The Port of Mobile and the inland waterways serving it are major factors in the economy of Alabama and the U.S. Gulf Coast. The Warrior-Tombigbee Waterway is a vital factor in this respect. It serves the manufacturing, mining and the agricultural areas and industrial production facilities in western Alabama. The waterway has served as an economic stimulant for one hundred years, having been periodically improved until today, and is a modern system with one major exception, the Oliver Lock and Dam, which is now being replaced.

This waterway is currently handling most of the coal moving out of Mobile for export. Many basic materials move on this system and it is important that funds for an adequate Operations and Maintenance program be appropriated for the BWT. The amount proposed for BWT Operations & Maintenance is $9.3 million. The current 5-year average is $12.5 million, which is somewhat lower than the longer term average due to the absence of major flooding and shoaling during several of these years. However, to date in this calendar year we have had record floods, which inevitably means greater shoaling and heavier maintenance. The $9.3 million is clearly inadequate and would probably not support the bare bones operations tasks. It would not allow the continuation of any of the ongoing deficiency correction program. For example, actions underway for several years to improve dredging disposal and reduce shoaling would have to be discontinued or terminated. Continuation of these programs is critical to the efficiency and reliability of the navigation channel and to the reduction of future maintenance costs.

The budget proposes $5.5 million to continue the new Oliver Lock. Approval of this amount will support the Corps' proposed schedule to replace this dangerous and costly bottleneck. (The total amount needed is $5.5 million, one-half of which will be provided from the Inland Waterway Trust Fund.)

We support the Corps' budget request for $9.3 million in O&M funds and $5.5 million in construction funds for the Black Warrior-Tombigbee and Oliver Lock; and request "additional capability" funds sufficient to support an adequate O&M program and continuation of the ongoing channel efficiency work.

In addition to the above request for the BWT we also ask the committee to fund the Corps' request for the Port of Mobile operational and maintenance and new construction.

We feel this is a valid investment by the Federal Government, and will continue to be matched many times over by local investment.

STATEMENT OF GULF POWER CO.

Gulf Power Company is an investor-owned electric utility and a member of The Southern Company; we serve 285,641 customers in Northwest Florida. Our company utilizes coal for over 99 percent of its total generation requirements within Florida and consumes over 3 million tons per year for that purpose. Over 90 percent of our coal deliveries in Florida are dependent upon waterway transportation.

During the past three years, Gulf Power has moved approximately 1,248,000 tons of coal on both the Tennessee-Tombigbee and the Warrior-Tombigbee Waterways or through the Port of Mobile. In recent years, this tonnage has increased due to the drought that caused low water on the Mississippi-Ohio River system. The diversion of coal traffic to the Tenn-Tom reinforces its importance to us. The use of the Tenn-Tom has enabled Gulf Power to receive Midwestern coal with very little delay.

As you can see from Gulf's dependence on the Tennessee-Tombigbee and Warrior-Tombigbee Waterways and the Port of Mobile, we wholeheartedly support the need for adequate funding to properly maintain and improve operations. It is imperative that Gulf continue to receive waterborne coal shipments in order to provide continued reliable electric service at the most economical cost to our customers. We are also concerned about the future industrial growth in our service area and must be certain that adequate fuel supplies can be transported to our generating plants.

In summary, we are in full support of the efforts of the Warrior-Tombigbee Development Association to provide efficient and reliable waterway systems for coal delivery. We urge you to approve the Corps' operating and maintenance budget request to provide adequate funds to maintain the Warrior-Tombigbee Waterway and the Mobile Harbor. We would urge you to approve more than the proposed $9.3 million which is substantially less than the average requirements over the past five years.

Also, the continued funding of construction of the new Oliver Lock is a very important part of the Corps' budget request and must be approved.

We feel that it is not only in Gulf Power's interest to support the maintenance and improvement of these waterways, but also in the best interest of the customers of our service area and the nation. The capability to transport coal and other commodities via the Warrior-Tombigbee Waterway and the Port of Mobile is vital to the economy of our region.

STATEMENT OF HARRISON BROS. DRY DOCK AND REPAIR YARD, INC.

I would like to express my vehement support for funding of the Warrior-Tombigbee Waterway. Our company is a capable, efficient repair-yard which provides support for the many transportation activities which occur on this Waterway. In the past several years, we have been encouraged to see increasing use of the Warrior-Tombigbee Waterway, as well as increasing benefits to the Port of Mobile and the citizens of Mobile. This Waterway has provided our citizenry with jobs, as well as a renewed faith in the waterways transportation which is such a vital part of the American Heartland. Our company stands ready to continue growing along with the activities on this vital waterway.

While we support the Corps' of Engineers budget request of $9.3 million in Operations & Maintenance funds, we are highly concerned that this will not provide adequate funds for vital improvements which are needed to make the Warrior-Tombigbee Waterway attractive for increasing operations. We consider increased funds especially vital for the Warrior-Tombigbee Waterway during its infant years of establishing the viability of its usefulness. We would therefore like to request "additional capability" funds which can support the on-going efforts to improve the efficiency of our Waterway. If continued improvements to the Waterway are not provided, we are quite concerned that this will have a significantly negative impact upon the Port of Mobile and the Gulf Coast in general.

We sincerely appreciate the present budget proposal of $5.5 million to continue the new Oliver Lock, and we strongly support the appropriations of these funds to replace this bottleneck in our Waterway. We strongly support your continued efforts to ensure this vital funding.

As a member of the Warrior-Tombigbee Development Association, I strongly support the testimony of our President, Offa S. Nichols, Jr. He has provided insightful, accurate, and fair representation for the interests of the Waterway, and we have tremendous confidence that his testimony will continue to reveal the needs of our Waterway to present and future congresses.

We sincerely thank you for your support of these matters, and we feel this support will be of benefit to the Warrior-Tombigbee Waterway, the Port of Mobile, and American commerce in general.

STATEMENT OF G.A. GILBERT, MANAGER OF TRANSPORTATION, HUNT REFINING CO.

As a concerned user of the Warrior-Tombigbee Waterway, I would like to state my reasons for supporting this waterway.

Hunt Refining Company is a refinery that produces such products as all grades of gasoline, several types of asphalts, fuel oils and coke. We receive approximately 20,000 tons of crude oil per month and approximately 5,000 vacuum bottoms by barge. We receive approximately 3,000 tons on the MTBE line per month. We, in turn, barge out approximately 25,000 tons of crackerfeed per month. The above tonnage represents millions of dollars in revenue. Our dock facilities, which were first built in 1946, are located on the Black Warrior River, near the Oliver Lock and Dam.

We have just recently constructed an asphalt terminal in Decatur, Alabama. Beginning in June, we anticipate receiving approximately 6,000 tons of asphalt per month.

Our crucial reason for needing the waterway is that we make a product called "crackerfeed," named so because it is used in catalytic crackers. The only way we have of delivering this product is by the waterways. Fortunately, the refineries that we ship to are all over the intercoastal waterway.

With the opening of the Tennessee-Tombigbee Waterway, we anticipate the market in the North to open. We already move approximately 5,000 tons per month to the Northern U.S. This gives us an optimistic view of other job possibilities.

We also receive crude oil from international freighters; first offloaded in Mobile into storage tanks and then barged to our refinery.

In regard to the Port of Mobile, we would like to emphasize the draft limitations there and hope we can continue to have funding to allow us to offload our international freighters and move them in and out of Mobile in an economical and safe manner.

We would like to indicate that we support the Corp's budget request for $9.3 million in BWT Operations and Maintenance funds and the $5.5 million in construction funds for the Black Warrior-Tombigbee and Oliver Lock. We also support the Corp's budget request for Operations & Maintenance and construction funds to continue the deepening project at Mobile Harbor. In addition, we would like to request "additional capability" funds sufficient to support continuation of the on-going channel efficiency work.

STATEMENT OF MOBILE AREA CHAMBER OF COMMERCE

This statement is presented on behalf of the over 3,200 business members of the Mobile Area Chamber of Commerce in support of the continued development of the Warrior-Tombigbee Waterway system, and the desperate need to increase the funding for the United States Army Corps of Engineers.

The Port of Mobile, one of the top 10 ports in the United States based on tonnage handled (export/import), is dependent on the extensive Alabama Waterways System. These waterways, including the Warrior-Tombigbee system, play a vital role in the movements of both domestic and international commerce. Over the years as the records will confirm, the Warrior-Tombigbee system has grown annually in the amount of tonnage handled, primarily bulk materials, including but not limited to coal, ores, petroleum products and other materials. The export of some of these commodities has assisted greatly in our balance of payments which continues to be a growing problem for our nation.

Based upon the vital role of this major waterway system to the southeast area, the State of Alabama and the Port of Mobile, we respectfully submit that the operations and maintenance budget of the Corps fiscal year 1991 is substantially lower than the fiscal year 1989 and the fiscal year 1990 requests. We also call your attention to the fact that it is also substantially below the average actual annual expenditures of some $12.5 million over the past five years. This is not adequate for an effective program for this vital waterway, nor does it allow continuation of other projects already under way which are designed to improve channel efficiency and reduce further costs.

We wholeheartedly support the requested amount of $5.5 million for new construction work.

STATEMENT OF WILLIAM K. NEWMAN, VICE PRESIDENT, POWER GENERATION AND DELIVERY, MISSISSIPPI POWER CO.

Colonel Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association, is appearing before your Subcommittee in support of the Waterway and the Corps of Engineers' budget request relating to the project. As Vice President of Power Generation and Delivery at Mississippi Power Company, a user of the Waterway, I am writing in support of Colonel Nichols' testimony. I am also requesting consideration be given to increasing the proposed funding level to ensure both an adequate operation and maintenance program, and continuation of the channel efficiency work for the BWT.

The cost of fuel is the single largest operating expense Mississippi Power Company faces. Coal mined in the region served by the Warrior-Tombigbee Waterway provides us with a reliable, competitive source of fuel. Any deterioration of the reliability of the shipping along the Waterway would force the Company to higher cost suppliers.

Furthermore, the Warrior-Tombigbee is one of only two alternative waterways by which coal is delivered to our generating units. Should there be disruptions in the coal deliveries that normally come down the Mississippi River, the Warrior-Tombigbee would provide the only viable waterborne alternative for ensuring that adequate supplies of coal are delivered to Mississippi Power Company in a cost effective manner.

The Warrior-Tombigbee Waterway has played an important role since 1976 in the delivery of coal to Mississippi Power Company's facilities. In 1989, approximately 456,390 tons, or 14 percent, of our coal Purchases were shipped over this Waterway.

Mississippi Power Company operates in Southeast Mississippi and provides electric service to over 175,000 customers. Our customers include several military installations, federal government agencies, and prime defense contractors.

Any deterioration in the ability to ship over this waterway, or an increase in our cost due to increased delays, would not only adversely affect all of these customers including federal installations, but would also impede future economic development in Southeast Mississippi.

Your favorable consideration of the testimony on behalf of the Warrior-Tombigbee Development Association will be greatly appreciated.

STATEMENT OF PARKER TOWING CO., INC.

I wholeheartedly endorse and support the testimony of Col. Offa Nichols, President of the Warrior-Tombigbee Waterway Development Association in its endeavors to improve the efficiency and reliability of the Warrior-Tombigbee Waterway.

The Warrior-Tombigbee Waterway and the Port of Mobile are not only consequential to my company and the industries we serve, but play a significant role in the economic stability and well being of the entire State of Alabama.

A substantial majority of the coal moved in the State of Alabama and exported through the Port of Mobile is transported on the Warrior-Tombigbee Waterway. On any given day, at any time of the day, barge load quantities of products such as steel, salt, coke, scrap iron, oil and chemical products, as well as agricultural products, are conveyed via the Warrior-Tombigbee Waterway.

In general, the spectrum of products that move daily along the Warrior-Tombigbee Waterway readily points to the obvious and prevailing economic impact that the Warrior-Tombigbee Waterway has on business in Alabama.

Without a well maintained Warrior-Tombigbee Waterway, any drought situation along the Mississippi River, as we found just two (2) summers ago, would be devastating, and many shippers and receivers would lay in ruin.

As a member of the Warrior-Tombigbee Development Association, I emphatically support the United States Corp of Engineers Operations and Maintenance (O & M) budget request and their Construction Budget request for the Black Warrior-Tombigbee, Oliver Lock and Mobile Harbor. I respectfully request that additional capability funds should be readily available to secure the success and continuation of the on going channel improvement program.

Proper and adequate funding of the O & M channel improvement and construction will lead to a competitive barge transportation industry for Alabama and Alabama shippers. Anything that we can do to make these Alabama shippers more competitive will lead to increased activity within our region's industry and along with increased activity, employment will surely increase as well.

STATEMENT OF SOUTH CENTRAL BELL, BIRMINGHAM, AL

The state of the United States economy as a whole and Alabama in particular, has a direct impact on the overall well-being of South Central Bell. The positive impact of events and/or projects on the economy of Alabama is of major interest to South Central Bell. The Warrior-Tombigbee Waterway and the Port of Mobile are two such projects.

Their impact in generating new business and expanding existing business helps to spur economic growth from one end of our state to the other. This economic impact helps to delay our need for rate relief from Alabama ratepayers and in general creates a greater quality of life for all Alabamians.

We support the efforts of the Warrior-Tombigbee Development Association and its President, Offa Nichols, Jr., because we believe their efforts will lead to long-term benefits in the areas of energy conservation and international trade within the United States.

I would also like to lend my support to the Corps' of Engineers' request for adequate funding for the operation and maintenance of the waterways and ports.

I know the Association can count on your support in this matter.

STATEMENT OF SOUTHTRUST BANK OF ALABAMA

As a director of Warrior-Tombigbee Development Association, Executive Vice President of SouthTrust Bank of Alabama and as a private citizen, I have felt a duty each year at this time to write to you regarding the annual budgetary issues involving the Waterway.

Each year, we need your help in reinforcing the need for appropriate funding to maintain and improve this wonderful tribute to engineering excellence which has forever changed the lives and economic potential of our great state. As a commercial banker in an organization which has business interests throughout Alabama, as well as the Southeast (including Mobile), I can assure you the continuity of this transportation system is essential to our fiscal health since many of our clients directly or indirectly benefit from the Waterway.

From studying the materials provided me it appears the operations and maintenance budget for the coming year falls far short of the average for the last five years. Efficiency and reliability of the navigation channel is at stake and underfunding the maintenance of this low cost, energy efficient transportation alternative could be financial short sightedness. So much of the tax payer's money has been invested in this fine system that it would frankly be an injustice to allow it to deteriorate.

The Congress has been very generous to Alabama and the Southeast for Which we are extremely grateful. But as I've said in the past, the Warrior-Tombigbee Waterway is a National Asset benefiting many Americans.

Please help keep attention focused at the highest levels on providing appropriate maintenance and operating funds to ensure this treasure remains valuable to us all.

STATEMENT OF SOUTHERN COMPANY SERVICES, INC.

On behalf of Alabama Power Company, Gulf Power Company, and Mississippi Power Company I am writing to convey our support for the Warrior-Tombigbee Development Association and its president in their efforts before your committee. Because of the importance of the Warrior-Tombigbee Waterway to local, national, and international trade, the Southern electric system joins with the Warrior-Tombigbee Development Association in an effort to improve the efficiency and reliability of the Warrior-Tombigbee Waterway.

For the past 25 years, Alabama Power Company, Gulf Power Company, and Mississippi Power Company have used the Warrior-Tombigbee to transport coal to their respective electrical generating plants at Demopolis, Alabama; Mobile, Alabama; Pensacola, Florida; Panama City, Florida; Sneads, Florida; and Biloxi, Mississippi. In 1989 approximately 4.7 million tons of coal were transported from points along the Warrior-Tombigbee Waterway for these three utilities. We continue to receive tonnage off the Warrior-Tombigbee Waterway that has previously gone down the Mississippi River through New Orleans. The Warrior-Tombigbee Waterway allows these barges to move down the Warrior-Tombigbee River and through Mobile. The significant importance of this capability to our system was obvious during the record drought conditions of 1988. Had it not been for the Warrior-Tombigbee Waterway, some of our Gulf Coast plants could have experienced severe fuel shortages. Additionally, the Port of Mobile is the hub of the Central Gulf Coast and the continued development of its facilities and support services is critical to the economy of the tri-state area served by the Southern electric system.

Alabama Power Company, Gulf Power Company, and Mississippi Power Company utilize water transportation because of the economic advantage to our millions of customers. Any expenditures for maintenance or upgrading which improve the efficiency and reliability of the waterway will have a positive impact on our customers. At the same time, higher cost resulting from inefficiency or the unreliability of the Warrior-Tombigbee Waterway will have a direct and adverse effect upon our customers.

It is imperative that there be a continuous program for maintenance and upgrading of the Warrior-Tombigbee Waterway channels and locks. The proposed budget request for $9.3 million in Operations and Maintenance funds for the Black Warrior-Tombigbee River is substantially less than the fiscal year 1989 and fiscal year 1990 requests. It is also well below the average actual annual expenditures of some $12.5 million over the past five years. This level of funding is not adequate for an effective program for the Waterway, nor does it undergird several projects underway which are designed to improve channel efficiency. It is essential that this work be funded at a higher level. The amount proposed for new construction appears to be adequate to continue work on schedule for the New Oliver Lock. The requested amount is $5.5 million. It is interesting to note that funding requirements for fiscal year 1992 are projected at $10 million and for fiscal year 1993 at $11.5 million.

Adequate funding of programs required to maintain the efficiency and reliability of our nations's waterways is critical to its superior economic health and welfare. I strongly urge and solicit your support.

STATEMENT OF TENN-TOM TOWING CO.

As a member and director of the Warrior-Tombigbee Development Association as well as a regular user of the Warrior-Tombigbee Waterway, we wholeheartedly support the testimony of the President of the Warrior-Tombigbee Development Association, Offa S. Nichols, Jr.

We primarily move petroleum products on the waterway and also operate two petroleum terminals in the Mobile area. Without the proper funding of the Operations and Maintēnance program of the Corps of Engineers it would be impossible for this area to compete with other operations on the Gulf Coast.

We feel that the amount proposed for new construction may be adequate, but we are greatly concerned about the proposed $9.3 million for BWT Operations and Annual Maintenance. This amount is substantially below last year and even lower than the average for the past five (5) years. With all of the flooding we have had during the past several months, this amount is not adequate for the continuation of the on-going deficiency correction program which is so vital to navigation.

At the present time, we utilize the entire length of the Warrior-Tombigbee and work daily in and around the Port of Mobile. Without the constant operations and maintenance performed by the U.S. Corps of Engineers, it would not be possible for the barge traffic industry to continue to grow and provide this country with the most economical and energy efficient mode of transportation available today.

We appreciate the opportunity of expressing our views on the Warrior-Tombigbee Waterway System and the Port of Mobile and want to thank you for your cooperation in the past and continued interest for the future of all waterways in our nation.

STATEMENT OF THOMPSON TRACTOR CO.

Thompson Tractor Co., Inc. is the authorized Caterpillar dealer for the state of Alabama and the ten counties of Northwest Florida. Our company of 750 employees is dedicated to the sale and service of the full line of Caterpillar equipment, lift trucks and engines.

Our products are found in every industry having materials to be moved: coal, forest products, sand and gravel, grain, chemicals, and manufactured goods. The Warrior-Tombigbee Waterway is of vital importance to Thompson Tractor Co. and to our customers. Two of the major markets we serve, coal and pulp and paper, rely heavily on an efficient water transportation system.

Thompson Tractor Co. supports the Corps of Engineers budget request for $9.3 million for Operations and Maintenance funds and the $5.5 million in construction funds for Black Warrior-Tombigbee and Oliver Lock. It is also extremely important that "additional capability" funds be made available for the continuation of the ongoing channel efficiency work and deepening project at Mobile Harbor.

The efficiency and reliability of Alabama's water transportation system must be improved. Thompson Tractor Co. supports the March 27, 1990 testimony of the Warrior-Tombigbee Development Association and pledge our support to the success of this critical waterway.

STATEMENT OF VOLKERT & ASSOCIATES, INC.

David Volkert & Associates, Inc. (DV&A) is a large engineering/architectural/planning firm which employs over 200 people and maintains Alabama offices in Birmingham and Mobile.

DV&A supports the fiscal year 1991 Corps of Engineers' funding for the Warrior-Tombigbee and the Port of Mobile. Specifically, we support the Corps' budget request for $9.3 million in Operations and Maintenance fund and $5.5 million in construction funds for the Black Warrior-Tombigbee and Oliver Lock.

We request additional funds be appropriated to support the continuation of the on-going channel efficiency work and the deepening project at Mobile Harbor. Mobile's economy would greatly benefit by utilizing the Port of Mobile to its greatest potential.

We are aware of the importance of the Warrior-Tombigbee Waterway to Mobile and to our nation as a whole. Since Mobile's largest industry is its port, the further development of this Waterway would not only add to Mobile's commerce and industry, fueling monies into its economy and providing needed jobs for its people, but would also improve the efficiency and reliability of the Warrior-Tombigbee Waterway and the Port of Mobile. This improved capability and reliability would allow for lower operating costs, higher energy efficiency, and added importance to local, national and international trade.

Confidence in the Waterway and its efficiency and modernization are important in bringing much needed new industry to Mobile. Lower operating costs to users of the Waterway and Port of Mobile are essential to obtain a reasonable balance of the international export market allowing the U.S. to reduce our trade deficit. Increases in shipping and commerce result in opportunities for many companies, similar to DV&A, to obtain business and offer meaningful employment to citizens of the State of Alabama and other parts of the U.S.

DV&A appreciates the opportunity to express our support of Col. Nichols, President of the Warrior-Tombigbee Development Association, and the testimony to be given by him before the Appropriations Committees of the Senate and House. We are proud to join in the collective effort to improve the efficiency and reliability of the Warrior-Tombigbee Waterway and the Port of Mobile.

STATEMENT OF JIM WALTER RESOURCES, INC.

I would like to thank you for the opportunity to make a statement to your Subcommittee. Please accept this letter as my statement.

The Mining Division of Jim Walter Resources, Inc. mines over 9 million clean tons of coal per year. Of that amount, nearly 65 percent of our production is exported. Approximately half of our export production travels down the Warrior River and all of our export production goes through the Port of Mobile. Our payroll for 2,825 employees last year was in excess of $102,000,000 and taxes withheld and/or paid were in excess of $37,000,000. It is obvious from these facts and figures that this Company relies heavily on our waterways and port facilities and that they are of the utmost importance to this Company, its employees and the economy of the State of Alabama.

I strongly support the Corps' of Engineers budget request for at least $9.3 Million in Operations & Maintenance funds and $5.5 Million in construction funds for the Black Warrior-Tombigbee and Oliver Lock. Our waterways and port facilities provide economic prosperity to Alabama that is worthy of your support. Further, I support the statements and testimony to be given by Mr. Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association. I believe that the value of improved efficiency and reliability of the Warrior-Tombigbee Waterway and Port of Mobile cannot and must not be underestimated.

Consequently, I urge you to consider increasing the proposed appropriation for Warrior-Tombigbee Waterway operations and maintenance. The amount currently proposed is inadequate to allow additional capability for ongoing channel deficiency corrections. An appropriation at this level threatens both the efficiency and reliability of our waterways.

The world coal business is at its most competitive level in history. News of any problems, especially transportation and delivery problems, is quickly spread by other coal producers around the world to the buyers to discourage purchases hers. A blemish on our delivery record can have devastating, long-term effects from which we might never fully recover. Buyers lost today may never return tomorrow.

Again, thank you for this opportunity to give my comments on this very important matter.

STATEMENT OF WARRIOR & GULF NAVIGATION CO.

I am Nicholas J. Barchie, Jr., President of Warrior & Gulf Navigation Company, and the newly elected Chairman of the Warrior-Tombigbee Development Association. Our company is a member of the Warrior-Tombigbee Development Association and thereby supports the testimony to be presented by Mr. Offa Nichols as President of the Association. In the subsequent paragraphs, we wish to address the extreme importance the Warrior-Tombigbee Waterway and the Port of Mobile contribute to success of our company.

Warrior & Gulf Navigation joins in a collective effort to improve the efficiency and reliability of the Warrior-Tombigbee Waterway due to lower costs, energy efficiency, and the major importance it has on domestic and international trade; e.g. low transportation costs via water is imperative to the coal producers, steel producers; farmers and forest products companies in Alabama to maintain competitive prices in the world market in the movement of their coal, grain, steel, logs and wood chips.

Warrior & Gulf is a barge line located in Chickasaw, Alabama, and owns 27 towboats and 295 barges making us one of the largest water carriers operating on the BWT system. With our current equipment ownership our annual capacity is approximately 10,000,000 tons. Additionally, we operate one barge drydock, a coal handling and iron ore facility at Port Birmingham; one barge drydock and one boat drydock at our Chickasaw facilities; and, a wholly owned subsidiary of Warrior & Gulf, Mobile River Terminal, is another bulk terminal handling various cargoes from and to ocean-going vessels in the Port of Mobile. Our total employment is approximately 300 people.

Warrior & Gulf provides barge transportation on the BWT System for coal (domestic and export), iron ore, iron and steel products (export, import and domestic), scrap, gypsum, wood chips, and many other types of bulk commodities. With the continued success of the new steel mill at Tuscaloosa, along with the pipe mill and the new continuous caster at Fairfield, Alabama, we contemplate further increases to materialize in our steel, iron ore and coal shipments; thereby, requiring an efficient and properly maintained waterway along with the Port of Mobile most important to WGN in our on-going efforts to satisfy the increased demand. Moreover, we cannot afford to ignore the mutual benefits which will be certainly realized from continued commitments to private industry connected with the waterway. To encourage economic development along this magnificent waterway we must renew our efforts to ensure that this viable, low cost transportation alternative remains in tact. The continued efficiency of this waterway is critical to the viability of these new industries.

Warrior & Gulf began using the Warrior-Tombigbee Waterway in 1940. During 1985, our capital investment for new equipment approximated $2,000,000; in 1986, $2,100,000; and, in 1988 and 1989, $9,000,000, each of these two years; in order for our company to continue providing economic water transportation to its many customers along this waterway.

With regard to construction funding the budget proposes $5.5 million to continue the new Oliver Lock construction. Approval of this amount is very critical to the timely and efficient contract placement to remove this dangerous and costly bottleneck, and, to support the Corps' proposed schedule to replace this antiquated lock.

Historically, our shoaling problem varies greatly from year to year dependent upon the length of our high water season (December–April) and the amount of flooding that occurs. Accordingly, the proposed amount for the Warrior-Tombigbee System's Operations & Maintenance is $9.3 million. The 5 year average is $12.5 million, which is somewhat lower than the longer term average due to the absence of major flooding and shoaling over the past several years. The $9.3 million is clearly inadequate and would probably not support the bare bones operation tasks. It would not allow for the continuation of any of the on-going channel deficiency correction program. For example, actions that have been underway for several years to improve dredging disposal and reduce shoaling would have to be discontinued or terminated. Continuation of these programs are very critical to the efficiency and reliability of the navigation channel and to the reduction of future maintenance costs. Simply stated, we need the "additional capability" funding as the Corps' budget request is presently inadequate and needs to be increased.

We might add, unlike the past few years the 1989-'90 season has experienced record flooding for a prolonged period, thus, requiring the operators to run the locks and dams in order to continue navigation. Accordingly, we can anticipate the shoaling on the BWT System this summer to become a major problem to navigation and require more dredging to clear up bottlenecks than have been experienced over the last several years.

In closing, we wish to confirm our support for the Corps' budget request for $9.3 million in O&M for the Black Warrior-Tombigbee System and $5.5 million for construction funds to continue the new Oliver Lock; however, we strongly suggest additional funds be made available to ensure both an adequate O&M program and continuation of the channel improvement work on the BWT. Additionally, we support the Corps' budget for O&M and construction funds to continue the deepening project at Mobile Harbor.

We respectfully request your continued support and assistance as your subcommittee considers appropriation of funds for these very important issues concerning the Black Warrior-Tombigbee System and Mobile Harbor.

PLANNING ASSISTANCE TO STATES AND FLOODPLAIN MANAGEMENT SERVICES PROGRAMS

STATEMENT OF REBECCA HUGHES, ASSOCIATION OF STATE FLOODPLAIN MANAGERS, INC.

Senator DECONCINI. We now are going to have Ms. Rebecca Hughes, Association of State Floodplain Managers, Inc.

Ms. HUGHES. Good afternoon, Senator. I am Rebecca Hughes. I am chief of the Floodplain Management Program for the State of Maryland, and I am here today on behalf of the Association of State Floodplain Managers to express our opposition to cost-sharing requirements proposed for floodplain management services and program assistance to States, or section 22 of the Corps of Engineers budget.

The association is the only national organization of State and local officials responsible for managing flood-prone areas and for helping rebuilding efforts after the water recedes. We work daily to identify problem areas, to develop approaches for land management of those areas, to mitigate existing flood hazards, and reduce risks to public safety.

Annually, over $5 billion in property damage is caused by floods of all sizes. Big disasters, such as Hurricane Hugo or the recent deluge in the South, but also small floods caused by tornadoes and thunderstorms that do not make national news, cause a lot of damage.

Despite efforts of State and Federal governments, floods continue to affect a large number of people across the Nation. The most effective floodplain management effort is when a property owner decides to avoid the hazard area. Unfortunately, the benefits of such a decision never show up on anyone's balance sheet.

We are very concerned with continued efforts to require cost sharing of what is recognized as one of the most effective programs to reduce and avoid flood-related problems, and that is the Corps of Engineers Flood Plain Managemen Services Program, or FPMS.

This program provides a variety of technical assistance to citizens, businesses, industries, small towns, cities, and States. Much of its success is immeasurable, since it leads to damage and dollars avoided, therefore it is difficult for us to accept a programmatic decision that is based on apparently a dollar evaluation, yet that is exactly what is happening when cost sharing is proposed for FPMS.

We hear the Corps responds to nearly 90,000 requests annual for help. Many of them are simple phone calls from citizens asking for readily available data in order to make informed decisions about avoiding hazard areas. Many requests are also coming from lenders and insurance agents that are trying to determine if flood insurance is required.

FPMS is a program that conducts several efforts that are also vital to public safety. We all heard about the incredible success of evacuation efforts in South Carolina before Hurricane Hugo hit. High on the list of those responsible for that success is the Corps.

The hurricane evacuation study which was in part financed through the FPMS program for Charleston and South Carolina was managed by the Corps of Engineers. Similar studies have been conducted or are in progress for other areas around the gulf and Atlantic coast, including the Chesapeake Bay and the mid-Atlantic region.

In the last few years, the FPMS program has been used to undertake a number of study and design efforts for flood warning systems used to warn of pending flash floods—those fast and furious events that frequently cause unexpected and unnecessary deaths.

Some specific examples at work. Nearly one-third of Louisiana's communities that are participating in the flood insurance program do not have elevations, so when someone wants to build they have to turn to some source of information, frequently the Corps, to find out, how high do they build?

In Arizona, FPMS is currently studying the Sierra Vista community. It also helped some communities review subdivision plans to make sure that they are in compliance with regulations.

Senators Heflin and Shelby earlier mentioned the damage from the recent flooding in Alabama. I tried to call my colleague there to find out what is the Corps doing to assist? He was unavailable because he was in the field busy with postdisaster work, but the communities that were badly hit could—they do have the opportunity to request assistance through the Floodplain Management Services Program.

I think we can all imagine the despair that they might have, though, if they are told that this expertise is waiting, but all they have to do is come up with part of the money. After the flood is a very difficult time for communities and citizens to do so.

If I may have just another minute on another aspect of cost sharing, budgeted funds pay for floodplain management services Corps salaries. If we, the States and locals, have to contribute, then we are paying part of Federal salaries. One aspect of this is it puts the Corps in the posture of competing with private engineering firms for limited State and local dollars. We consider that this is an inappropriate position.

Cost sharing will have at least three overwhelming and unfortunate consequences. The Floodplain Management Services Program will be less efficient, because extra work will be required to negotiate all the administrative details of cost-sharing agreements—collecting funds, and the whole realm.

FPMS will be less responsive. Because of the time involved with administrative aspects, the real work will have to wait. FPMS will be less effective. Since efforts will be directed to the few communities that have money, those perhaps with the greatest need will go without.

Sustaining cost sharing, we believe, will overwhelm the legislative objective of a Floodplain Management Services Program, and in the long run the Nation will end up paying for more flood damage and repair.

So, we would urge removal of the cost-sharing requirement for floodplain management services, and we will be working with the authorizing committee on this matter as well.

We have submitted written testimony and I will be pleased to respond to any questions.

Senator DeConcini. Thank you very much, Ms. Hughes. It is helpful to have that testimony, and also that you do supply that to the authorizing Committee. We are familiar with what you are trying to do, and we will certainly take your views into careful consideration.

Ms. **Hughes**. Thank you, sir.

[The statement follows:]

STATEMENT OF REBECCA HUGHES

The Association of State Floodplain Managers is the only national organization of state and local officials responsible for managing flood-prone areas. We represent the state and local agencies that work to reduce and prevent flood damage.

In an average year, floods kill 150 people and cost the Nation over $5 billion in property damage. Floods have been and continue to be a tremendous burden to taxpayers. The federal government alone spends over $1 billion each year in disaster assistance, subsidized flood insurance, and flood control projects. Fifty years of experience with federal floodplain programs have shown that the best way to prevent and reduce flood losses and to minimize federal expenditures is to have effective state and local programs.

Two elements in the FY'91 U.S. Army Corps of Engineers' appropriations deserve special attention: Floodplain Management Services Program and Section 22 Planning Assistance to States. For a relatively small federal expenditure these programs will result in very large federal savings through the prevention or reduction of damage and death due to floods and through rational water resources management planning.

The Association of State Floodplain Managers supports:

1. Elimination of the proposed cost sharing and the restoration of funding to the $10 million level for the Floodplain Management Services Program (FPMS).
2. Elimination of the proposed cost sharing and restoration of funding to the $5 million level for the Planning Assistance to States Program (Section 22 of the Water Resources Development Act).

The Cost Sharing Issue

In the FY'90 budget the Administration recommended reduction in FPMS funding to $5 million. This was to be paired with a requirement for 50/50 cost sharing on the theory that it should be in a $10 million program. Congress recognized the value of these reconnaissance level efforts, and removed the cost sharing proposal to continue these high priority services at full federal cost. This year, the Administration proposes phased cost sharing with a 10%, 30%, and 50% match required for FY'91, FY'92, and FY'93, respectively.

The Floodplain Management Services and the Planning Assistance to States programs are not grant programs that fund state staff, as is the case with many other cost shared programs. Funds are used for salaries of Corps staff. State and local funds should not be used to pay the salaries of federal employees. That makes it look as if the federal government is in competition with consulting engineering firms, which is not the case.

Activities under these programs are already partnerships. State and local governments already pick up the lion's share of the costs of administering nonstructural flood hazard reduction and resource planning efforts. Some state programs have budgets around a million dollars, yet they are still inadequate for demand. State funds are used to develop and administer state standards to assist local communities to adopt and administer regulations, and to train state and local staffs.

Over the years, a strong federal/state/local partnership has been carefully forged to pool ALL available resources in addressing the Nation's ever increasing property losses and the threats to life, health and safety. Each level of government must do its part, building on their respective strengths. A key strength of the federal government resides in the technical expertise of the Corps of Engineers. The federal partnership role should be to use that expertise to meet federal objectives: to assist citizens, locals and states who are working to guide development to avoid the risks of flooding and to reduce risks to existing, susceptible structures. Simply because these programs may also meet some state and local objectives does not mean that a cost sharing requirement makes sense.

State and local funds should not be used to pay the salaries of federal employees. That makes it look as if the federal government is in competition with consulting engineering firms, which is not the case.

We strongly urge Congress to continue the commitment to shoulder the federal portion of the partnership effort to reduce flood losses in the Nation, and to promote comprehensive water resource planning incorporating multiple objectives of flood control, water supply, etc.

Floodplain Management Services Program

The Corps of Engineers' Floodplain Management Services staff responds to requests for assistance from state and local officials, citizens, and the private sector in order to promote prudent floodplain development. The program is unique and most helpful for reducing future federal costs for disaster assistance and recovery. It responds on short notice to day-to-day problems through a nationwide network of District offices. Its skilled engineers and planners provide the latest technical information on a variety of flood protection and avoidance measures.

The Corps is responding to nearly 90,000 requests for assistance each year. Most of these responses provide information on a site's flood hazard and guidance on how best to prevent or reduce flood damages or other negative impacts to the natural and beneficial values of floodplains, including wetlands. States and communities without expertise also request help to prepare and implement flood warning, evacuation and flood hazard mitigation programs.

The benefits of this program greatly outweigh the costs. Fifteen minutes of technical advice to a property owner can result in measures that prevent thousands of dollars in flood damage. A day spent with a local official to develop better floodplain regulations or to critique a flood evacuation plan can result in hundreds of thousands of dollars in flood protection. The more property owners and local officials are helped and encouraged, the less they will need federal disaster assistance or federally funded flood control projects. Cost sharing proposed to implement the "beneficiary pay principle". The federal treasury is, by far, the key beneficiary of the FPMS Program.

Floodplain Management Services is budgeted as a line item under "General Investigation, Collection and Study of Basic Data". Unlike other Corps' line items, there is no relatively simple or straight forward way to collect payments from such a large and diverse constituency. In many cases, the costs of collecting would be even more than the cost of providing the services outright.

Unless full funding is restored and cost sharing eliminated, the Corps will have to cut other types of assistance. Hurricane evacuation studies along the entire East and Gulf Coasts, flood hazard studies along the Great Lakes, and flood warning studies in flash flood areas, are among critically needed efforts that will suffer.

Because cost sharing for these programs makes no sense, we can expect little or no participation from state and local governments or the private sector, particularly individuals. As a result, Corps services will be cut to almost nothing and even services to those few with the ability to cost share will be reduced. This will mean:

- virtually all of the requests for floodplain information and assistance to build safer structures will go unanswered;
- billions of dollars worth of new construction may be inadequately protected from flooding;
- flood damage will increase, as will federal, state and local disaster and recovery costs;
- hurricane evacuation studies will be delayed or dropped, putting millions of citizens at risk;
- acquiring flood data on the Great Lakes will be delayed;
- people will continue to live at great risk to flash floods.

Recommendation: Because of the need for the Corps' Floodplain Management Services and the relatively small cost to the federal budget compared to the benefits gained, we strongly urge:

1. that Congress eliminate the proposed cost sharing; and

2. that Congress restore funding in the FY'91 budget to $10 million.

Planning Assistance to States Program

The Planning Assistance to States Program, authorized by Section 22 of the Water Resources Development Act of 1974, is budgeted under "Cooperation with other Federal Agencies, States and non-Federal Interests" for $4,500,000. This program uses Corps staff and expertise to encourage and promote broad, statewide comprehensive water resources planning, to avoid duplication of federal/state efforts, and to achieve federal and state goals. Assistance encompasses the full array of planning methodologies embodied in the development of comprehensive multi-objective water resource projects and related areas for which the Corps has planning expertise. Section 22 provides assistance that supports and supplements state efforts and which, in many cases, becomes an integral part of the state's overall plan. Assistance is provided without cost as an incentive for the states to take action to resolve identified water resource problems such as flood control, water supply, etc. In recent years, the Corps has provided assistance annually to all states and all U.S. Territories.

Like the Floodplain Management Services Program, funding for the Section 22 Program is also used to pay the salaries of Corps staff. As water resource regulation, protection and enforcement programs become more complex, and as more and more development pressure is brought to bear on our limited water resources, the need to develop comprehensive plans for the Nation's water resources increases.

State funds for these activities are fully committed to undertaking the state role in water resource protection. Few if any states are likely to provide funds to pay the salaries of federal agencies, especially when the states perceive there is a legitimate federal role that should and must be appropriately funded by Congress.

Recommendation: Because of the legitimate federal role and need for programs in the vital area of water resource planning, we urge:

1. that Congress eliminate the proposed cost sharing; and
2. that Congress restore funding to $5 million in the FY'91 budget.

If there are any questions or comments on this testimony, please call Larry A. Larson, Executive Director of the Association of State Floodplain Managers, at (608) 266-1926.

APALACHICOLA-CHATTAHOOCHEE-FLINT WATERWAY

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

Senator DECONCINI. The committee has received a prepared statement from the Tri River Association in Alabama. Since we are covering items from the southeastern part of the country, it will be incoporated in the record at this point.

[The statement follows:]

STATEMENT OF THE TRI RIVERS WATERWAY DEVELOPMENT ASSOCIATION

SUMMARY

TRI RIVERS WATERWAY DEVELOPMENT ASSOCIATION

REQUEST FOR FISCAL YEAR 1991 FUNDING

OPERATIONS AND MAINTENANCE

Apalachicola, Chattahoochee, Flint River System including George W. Andrews Lock, Dam and Lake, Alabama, Florida, and Georgia	$3,776,000
Jim Woodruff Lock, Dam, and Lake Seminole, Alabama, Florida and Georgia	$4,169,000
Buford Dam and Lake Sidney Lanier, Georgia	$5,707,000
Walter F. George Lock, Dam and Lake, Alabama and Georgia	$5,460,000
West Point Dam and Lake, Georgia	$4,908,000

WITNESS IN BEHALF OF

THE APALACHICOLA-CHATTAHOOCHEE-FLINT

INLAND WATERWAY AND RIVER SYSTEM

Phillip Hornsby Spokesman
President, Tri Rivers

Homer B. Hirt, Jr.
Vice President, Tri Rivers

George A. Loyed
Director-At-Large, Tri Rivers

William S. Sumption
Executive Director, Tri Rivers

STATEMENT

Thank you, Chairman Johnston and members of the committee for this opportunity to present the needs of the Apalachicola-Chattahoochee-Flint Inland Waterway and River System.

I am Phillip Hornsby, of Iron City, Georgia, President of the Tri Rivers Waterway Development Association. The primary objectives of our association are the effective development, utilization and maintenance of the Apalachicola-Chattahoochee-Flint Inland Waterway and River System for commercial navigation.

The basic authority for the navigable waterway is the 1945 River and Harbor Act which called for a 9 by 100 foot navigation channel from Apalachicola, Florida on the Gulf Intracoastal Waterway to Phenix City, Alabama/Columbus, Georgia on the Chattahoochee River and Bainbridge, Georgia on the Flint River.

Our organization is, of course, interested in and supportive of flood control, hydroelectric power generation, water quality, water supply, drought management, recreation, and wildlife enhancement. Our perspective is focused on the equitable use of the all system resources and services, with appropriate support for the ACF Federal Inland Waterway.

As we accomplish these objectives we are also strengthening the economic development base in Southeast Alabama, Southwest Georgia, and Northwest Florida. Accomplishing these worthy objectives and focusing on regional economic development has been the thrust of our association since it was founded in 1960.

We are here today to thank you for the funds you have provided for the continued operation and maintenance of the Apalachicola-Chattahoochee-Flint Inland Waterway and River System, and to urge funding of the request in the President's budget submitted to Congress for Fiscal Year 1991. This request of $3,776,000 is for the continued operation and maintenance of the ACF System.

We also request you appropriate funds requested in the President's budget for the operation and maintenance of four multipurpose dams on the ACF System, including:

Jim Woodruff Lock, Dam and Lake Seminole	$4,169,000
Buford Lock, Dam and Lake Sidney Lanier	$5,707,000
Walter F. George Lock, Dam and Lake	$5,460,000
West Point Dam and Lake	$4,908,000

There are six public ports along the ACF Waterway representing an investment of more than $15 million. Moreover, there are millions of additional dollars invested in private facilities and industrial operations along the waterway.

The nation's waterways serve as a vital link in providing much of the transportation needs of manufacturers and farmers in shipping their products and commodities from ragion to region. With existing rail costs presently increasing, as recently demonstrated by CSX Railroad, the valuable need for the ACF Inland Waterway is demonstrated to area interests, particularly our valley region farmers.

Tonnage moved on the system represents a substantial savings in transportation costs of millions of dollars to industries and final destination customers in the ACF basin. Economic development factors show that cargo tonnage means several hundred jobs, and millions of dollars in personal income, and state and local taxes. This contribution to the regional economy is essential to the continued growth of the States of Alabama, Florida and Georgia.

The association's study, "Barging Options for moving Tri Rivers Forest Products to Northern Markets", continues to take hold with word that Great Southern Paper Company has undertaken a study to move logs on the ACF System. Efforts are currently under way to explore every future consideration for marketing the plentiful ACF basin area forest products which can and have been shipped profitably on the system. We are studying the potential for increasing shipments of coal and other principal commodities. We are encouraged with the potential growth and economic development of our valley region. We are also thankful that the drought of the 80's is behind us.

Mr. Chairman, you and your fellow committee members have demonstrated your commitment to keep our nation's inland waterway systems as viable entities to the nation's economy. Through this sound commitment you have strengthened our nation's economy and the standard of living for many of our nation's citizens. The citizens living in the ACF basin area of Alabama, Florida and Georgia have benefited and are grateful for your support and foresight. We are thankful for this commitment and for the knowledge that it will not waiver.

As you are aware, critical issues concerning river and reservoir water management priorities, purposes, and fees are being discussed at various Government levels. We ask that you weigh such serious considerations carefully. Above all, we ask that the Congress of the United States reaffirm the long term perspective that built the ACF Inland Waterway and River System. That concept, based on sound priorities and placed into law, best serves the broad interests of the basin area. The original purposes of navigation, maximum hydropower production, and flood control must be preserved to insure substantial cost savings for area residents.

In closing, I would like to again thank you for allowing me to testify today. We are grateful for your continued leadership and diligence.

ARKANSAS RIVER BASIN PROJECTS

STATEMENT OF WALLACE GIERINGER, CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

ACCOMPANIED BY:

CHARLES L. THOMSON, CHAIRMAN, COLORADO INTERSTATE COMMITTEE

HAROLD B. SCOGGINS, CHAIRMAN, OKLAHOMA INTERSTATE COMMITTEE

ARTHUR T. WOODMAN, ACTING CHAIRMAN, KANSAS INTERSTATE COMMITTEE

BARRY McKUIN, PRESIDENT, ARKANSAS BASIN ASSOCIATION

Senator DECONCINI. Our next witness will be Wallace Gieringer, Arkansas River Basin Interstate Committee.

Mr. GIERINGER. Good afternoon, Mr. Chairman.

Senator DECONCINI. Do you want to introduce everybody you have at the table?

Mr. GIERINGER. Yes, sir; on my right is Tommy Thomson, who is the State chairman for the State of Colorado. Next to him is Harold Scoggins, the chairman of the Interstate Committee for the State of Oklahoma. On my immediate left, Mr. Art Woodman, chairman of the Interstate Committee in Kansas, and on his left, Barry McKuin, who is chairman of the Arkansas River Basin Coalition for the Development of Montgomery Point Lock and Dam.

My name is Wallace Gieringer from Pine Bluff, AR. It is my honor to serve as chairman this year for the 5-State committee, and it is our pleasure to be here with you sir, and before you.

I would request that copies of each State's individual testimoneys be made a part of the record along with this testimony.

Senator DECONCINI. We have those statements, and they will all appear in the record.

MCCLELLAN-KERR, ARKANSAS RIVER NAVIGATION SYSTEM

Mr. GIERINGER. Thank you very much, sir. We testify as a group to indicate our strong support of waterway projects in this five-State region. The McClellan-Kerr-Arkansas River navigation system has brought economical waterways, transportation and world trade to Arkansas, Oklahoma and the neighboring States.

The $1.3 billion Federal investment by the Corps of Engineers has triggered an additional $3.5 billion in private investments and is responsible for the creation of about 53,000 new job opportunities in this river basin. We do have one very pressing need, and our interstate committee as a group has agreed to focus on that one subject which is vital to the five States and beyond, and that is the situation that we find ourselves in.

This chart demonstrates it for you. The Arkansas River navigation system starts up at Tulsa with the Verdigris River, then you have the Arkansas River, then there is a navigation channel, and finally the White River to the Mississippi.

This area of this chart represents the Mississippi River. This is Norrell Lock and Dam, which is the first lock and dam upstream, 10 miles from the Mississippi. When the navigation system was built, the Corps, using historic data, projected 110 MSL as the low-water level.

What has happened though, Mr. Chairman, is that the Mississippi River has become much more efficient than the Corps or anybody else ever dreamed possible, largely to the Corps' good efforts in bank stabilization, in pads, and Mother Nature, and what happened is that the Mississippi now carries more water at lower elevations than was forecast.

We find that today, on the basis of current experience, the Mississippi is now forecast to get to an elevation of 95 feet, 15 feet below what was the design elevation for the Arkansas system. Now, that means that you will have 95 foot MSL here and 10 miles upstream the concrete pad upon which the Norrell Lock and Dam is situation has an elevation of 97 feet. Any tow boat, even with an empty tow, is going to be sitting on the sandy bottom. It just cannot navigate. It will not be able to.

That is projected by 2036. Between now and then, we have a continually recurring situation. Since 1980 we have had numerous instances, and we are averaging about 42 days a year, where restrictions to navigation exists, and this affects the reliability factor for this system as far as shippers and receivers.

In 1988, the Corps spent some $4 million in dredging this 10-mile stretch alone. Last year at Christmas, starting at Christmas there was a 1-week period in which the navigation system was shut down because of low water in this area. What has happened, upstream you have got plenty of water, but this 10-mile stretch is, if you will, a backwater of the Mississippi, and our ability to navigate is totally dependent upon the water level of the Mississippi.

When the Arkansas River navigation system was authorized by Congress in 1946, there were then Corps plans to build a lock and dam at mile point 5. That lock and dam was not constructed because the projections then for low water levels showed that it was necessary.

Actual experience has demonstrated time and again that a lock and dam is necessary there. The Corps of Engineers in recent years has done model studies at Vicksburg. They have demonstrated also that a lock and dam is necessary here, at what is called Montgomery Point.

The problem, Mr. Chairman, is real. The system is at risk. It is a matter of life and death for the investments that have been made by Federal interests, by private interests, and the thousands of jobs that have resulted because of the system itself. The future is threatened, and we respectfully request action by you and your colleagues leading to the appropriation of funds for land acquisition which would initiate construction of Montgomery Point Lock and Dam.

We thank you very much for your consideration and assistance. We deeply appreciate the foresight and wisdom that you and your colleagues have shown in providing solutions to water resource problems of our Nation each and every year. We request your help. We need it.

Thank you.

Senator DECONCINI. Thank you, Mr. Gieringer. Your two Senators have talked to a number of us about this. Senator Bumpers was here previously testifying. On advice by staff the Corps is doing some studies now and should be making a recommendation shortly. You want to go beyond that? You want to get started before you have everything from the Corps?

Mr. GIERINGER. What we hope to do, sir, is proceed forward in an orderly fashion. The Corps' report has gone from district to division, it is my understanding, this month. It is our understanding unofficially that the Corps points out that the only feasible solution to this continuous problem is not dredging. If they continue to dredge, the Corps tells us that they would fill 4,000 acres of land 60 feet deep—60 feet high, if dredging continues.

Navigation is crucial, and reliable navigation is certainly important.

Senator DECONCINI. Is there any distinction between what the cost of dredging that much versus the estimated cost of a new lock?

Mr. GIERINGER. It is our understanding, sir, that over the life of the project that at least one-half of the cost of the project would be recovered just from dredging savings, not to mention protecting the substantial investment that the Federal Government has already made in this area, plus substantial private investments which have followed.

Senator DECONCINI. Very good. Thank you for your testimony, gentlemen.

Mr. GIERINGER. May I ask the rest of our delegation to stand?

Senator DECONCINI. You can introduce them, if you would like to, for the record. We welcome you here. I am sorry we cannot have oral testimony from everyone.

We will put that in the record, the list of those accompanying you here today.

[The information follows:]

Arkansas River Basin Interstate Committee

Witness List

ARKANSAS

W. A. Gieringer	Chairman, Arkansas River Basin Interstate Committee; Chairman Arkansas Interstate Committee; Director, Arkansas Basin Development Association; Executive Director, Pine Bluff-Jefferson County Port Authority, Pine Bluff, Arkansas
Barry McKuin	President, Arkansas Basin Association; Director, Arkansas Basin Development Association; Winrock Farms, Inc., Morrilton, Arkansas.

Colorado

Charles L. Thomson	Chairman, Colorado Interstate Committee; Vice President, Arkansas Basin Development Association; General Manager, Southeast Colorado Water Conservancy, Pueblo, Colorado

Kansas

James O. Foster	Chairman, Kansas Interstate Committee; Boeing Military Airplane Co. Wichita, KS.
Taylor Peckham	Member, Kansas Interstate Committee; Peckham Insurance Agency, Augusta, Kansas.
Arthur T. Woodman	Acting Chairman, Kansas Interstate Committee; Vice President, Arkansas Basin Development Association; Woodman-Architects, Wichita, Kansas.

Oklahoma

Glen L. Cheatham, Jr.	Executive Vice President, Arkansas Basin Development Association; Director, Waterways Office, Oklahoma Department of Commerce, Tulsa, Oklahoma.
Coleman Fite	Member, Oklahoma Interstate Committee; Member, Waterways Advisory Board, Oklahoma Department of Commerce; Member. National Waterways Conference, Inc.; Director, Muskogee City-County Port Authority; Muskogee, Oklahoma.
Robert W. Portiss	Chairman of the Board, Arkansas Basin Development Association; Port Director, Tulsa Port of Catoosa, Catoosa, Oklahoma.
Harold B. Scoggins	Chairman, Oklahoma Interstate Committee; Director and Life Member, Arkansas Basin Development Association; Member, National Waterways Conference, Inc.; Muskogee, OK.
Sam Youngwirth	Executive Vice President, Muskogee Area Chamber of Commerce; Muskogee, Oklahoma.

STATEMENT OF WALLACE GIERINGER, CHAIRMAN, ARKINSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman, and members of this distinguished Committee, my name is Wallace Gieringer of Pine Bluff, Arkansas. It is my pleasure and honor this year to serve as Chairman of the five-state Arkansas River Basin Interstate Committee, which consists of five delegates from each of the states of Arkansas, Colorado, Kansas, Missouri and Oklahoma as they were appointed by their Governors to represent those respective states. As Chairman, I will be the spokesman for the Committee and respectfully request that the copies of each state's individual statement be made a part of the record, along with this testimony.

We collectively have the responsibility to coordinate water resource matters among the states and to speak for the Arkansas River Basin in appearances before Committees of Congress and regulatory agencies. We are joined here today by members of the Interstate Committee. With me are: Charles "Tommy" Thomson, Chairman of the Colorado Committee; Arthur Woodman, Chairman of the Kansas Committee; Harold Scoggins, Chairman of the Oklahoma Committee; and Barry McKuin, Chairman of the Arkansas River Basin Coalition for the Montgomery Point Lock & Dam. We testify as a group signifying the strong bond of support which water officials from the five states have developed.

The McClellan-Kerr Arkansas River Navigation System has brought economical waterway transportation and world trade to Arkansas, Oklahoma and neighboring states. This $1.3 billion federal project built by the Corps of Engineers has already helped attract private investments exceeding an estimated $3.5 billion, and more than 53,000 new jobs have been created as a result.

Mr. Chairman, the future of this wonderful, multi-purpose McClellan-Kerr Arkansas River Navigation System is threatened. We need your help and the help of Congress.

Low water levels of the Mississippi River and sediment accumulation near the confluence are restricting use of the Arkansas River Navigation System and have a negative effect on shipping capabilities. When the Arkansas River Navigation System was authorized by Congress in 1946, the Corps plans included a lock and dam at Mile .5, just upstream from the Mississippi River. In 1962 Corps studies established that the top of the water at this location would not go below 110 feet, and the originally planned structure was not built.

Since that time, forces of nature have combined with the impact of bank stabilization and other man-made alterations along the Mississippi. As a result, the low water levels have fallen. This affects the Arkansas River Navigation System between the Mississippi and Norrell Lock and Dam. Closure of the channel and restricted travel have been occurring with greater frequency and duration since 1980. Frequent dredging operations have been required just to keep this 10-mile section of the navigation channel open for barge traffic.

In 1988 alone, the Corps spent over $4 million in this area for dredging. This past Christmas season, the system was closed for over a week due to low-water problems in the entrance channel. Dredging and transportation costs are increasing each year. The problem is not resolved, and dredging will not solve the problem. The extra transportation cost to the nation is growing as shippers divert traffic to other more costly transportation modes that they perceive are more dependable.

The Corps of Engineers now predicts that the Mississippi will continue to decline before stabilizing at 95 feet, fifteen feet lower than the original design confluence elevation. This projected low-water level for the Mississippi is two feet below the sill of Norrell Lock and Dam--ten miles upstream on the Arkansas. Not even empty tows could go to or from the rest of the system - they would be sitting on the bottom with no water for navigation.

Intensive scale-model tests have been conducted by the Corps. Results from that study indicate that an additional lock and dam at Montgomery Point (Mile .5) would provide the solution to our persistent low-water problems and continual and expensive dredging. We believe that environmental concerns have been carefully addressed by the Corps.

Montgomery Point Lock and Dam is vital to maintaining dependable and economical navigation for the entire Arkansas River Navigation System and the multi-state region it serves. Without Montgomery Point, the navigation system becomes untenable and federal and private investments and thousands of jobs are jeopardized.

The proposed lock and dam was in the original project and, thanks to Congressional insistence, the construction authority has remained open.

Mr. Chairman and members of the Committee, we respectfully request action by you and your colleagues leading to the appropriation of funds for land acquisition which would initiate construction of Montgomery Point Lock and Dam. We thank you for your consideration and assistance and are deeply appreciative of the foresight and wisdom you and your colleagues have shown in providing solutions to water resource problems each and every year.

STATEMENT OF WALLACE GIERINGER, ARKANSAS CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of the Committee, my name is Wallace Gieringer. I serve as Executive Director of the Pine Bluff-Jefferson County Port Authority and Arkansas Chairman of the Interstate Committee. Other Committee members representing Arkansas are Messrs. Wayne Bennett, farmer from Lonoke; Michael C. Carter, attorney from Fort Smith; Charles Maynard, banker from Little Rock; and Charles Steel, retired electric utility executive from Little Rock.

We fully endorse the statement presented to you today by the Chairman of the Arkansas River Basin Interstate Committee and appreciate the opportunity to testify before your most important subcommittee.

THE McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM HAS BROUGHT ECONOMICAL WATERWAY TRANSPORTATION AND WORLD TRADE TO ARKANSAS, OKLAHOMA AND NEIGHBORING STATES. THIS $1.3 BILLION FEDERAL PROJECT BUILT BY THE CORPS OF ENGINEERS HAS ALREADY HELPED ATTRACT PRIVATE INVESTMENTS EXCEEDING AN ESTIMATED $3.5 BILLION, AND MORE THAN 53,000 NEW JOBS HAVE BEEN CREATED AS A RESULT.

OF UTMOST IMPORTANCE IS THE NECESSARY CONGRESSIONAL ACTION LEADING TO THE APPROPRIATION OF FUNDS FOR LAND ACQUISITION WHICH WOULD "INITIATE CONSTRUCTION" OF THE MONTGOMERY POINT LOCK AND DAM AT THE MOUTH OF THE WHITE RIVER. IN 1988 ALONE, THE CORPS SPENT OVER $4 MILLION IN THIS AREA FOR DREDGING TO ALLEVIATE WHAT HAS BECOME AN ANNUAL LOW-WATER PROBLEM.

THIS PAST CHRISTMAS SEASON, THE SYSTEM WAS CLOSED FOR OVER A WEEK DUE TO LOW-WATER PROBLEMS IN THE ENTRANCE CHANNEL. DREDGING AND TRANSPORTATION COSTS ARE INCREASING EACH YEAR AS THE PROBLEM HAS NOT BEEN RESOLVED, AND DREDGING WILL NOT SOLVE THE PROBLEM. THE EXTRA TRANSPORTATION COST TO THE NATION IS GROWING AS SHIPPERS DIVERT TRAFFIC TO OTHER MORE COSTLY TRANSPORTATION MODES THAT THEY PERCEIVE ARE MORE DEPENDABLE. MONTGOMERY POINT LOCK AND DAM IS VITAL TO MAINTAINING DEPENDABLE AND ECONOMICAL NAVIGATION FOR THE ENTIRE McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM AND THE MULTI-STATE REGION IT SERVES.

Certain other projects in our region are vital to the social, economic and environmental well-being of the region and our nation. We strongly recommend that you favorably consider the following in your budgetary deliberations:

- Support for all funding included in the President's budget for the construction, operation and maintenance of the McClellan-Kerr Arkansas River Navigation System; and
- Continuation of construction authority for the McClellan-Kerr Arkansas River Navigation Project until the remaining problems identified by the Little Rock District Corps of Engineers have been satisfactorily resolved. In addition to Montgomery Point, there are two other crucial problems which must be resolved:
  - Completing the construction of the extension of the Arkansas-White River cut-off structure which was started last year; and
  - Continuing the construction of the much-needed repairs at Dam 2 to provide for its safety.

Other needs include:

- Initiating the acquisition of additional real estate interests along the navigation system in Arkansas to allow the system to operate as originally designed;
- Funding to continue the cost-shared Central Arkansas Feasibility study which is addressing municipal, industrial, and agricultural water supply and recreation and fish and wildlife needs in the Central Arkansas area. The Arkansas Soil and Water Conservation Commission is very interested in cost-sharing with the Corps of Engineers in this study effort;
- We request that the Congress go on record recognizing a Federal interest in authorization and funding of off-channel harbors in accordance with "Economic and Environmental Principles and Guidelines for Water and Related Resources Implementation Studies" (dated March, 1983) for all navigation projects. The current policy is contributing to reduced economic growth in already economically depressed areas of our nation. This urgently needs to be corrected as slackwater harbors contribute to economic development, tax revenues and reduced transportation costs while enhancing our nation's competitive posture in a global economy; and
- We urge the Congress to encourage the Military Traffic Management Command to double their efforts to identify opportunities to accelerate their use of the nation's navigable waterways to move military cargoes which will help contain the nation's defense costs.

When the McClellan-Kerr project was constructed, the Corps of Engineers did not excavate the Arkansas-White Canal to its full depth, as it was not needed in the 1960s. The growth of sediment deposits requires excavation of the canal to its full depth. This would permit the Corps to operate Pool 2 as it does the other pools in the system to move sediments through and thus reduce the annual dredging costs and the problems associated with its disposal. Accordingly, we request the committee to provide the funds requested in the President's Budget for improvement of the Environment (Section 1135 of PL 99-662) for the structure across the lower part of the Morgan Point Bendway as the materials to be dredged from Pool 2 can be used for the structure which will be a highly beneficial use of dredge material.

We continue to be concerned that recently expanded non-federal cost-sharing requirements limit participation in federal water programs to wealthy states and communities. The poorer areas of our nation which have the greatest need and growth potential--but limited tax base--are unable to participate because they cannot even meet the study cost-sharing requirements.

We thank you for the privilege of speaking to you today and urge you to favorably consider our request.

STATEMENT OF CHARLES L. THOMSON, COLORADO CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman, and members of this distinguished Committee, my name is Charles L. Thomson, and I am General Manager of the Southeastern Colorado Water Conservancy District, with headquarters in Pueblo, Colorado. I submit this statement today on behalf of the other four members of the Colorado delegation, who were appointed by our Governor, the Honorable Roy Romer, to serve as members of the five state Arkansas River Basin Interstate Committee. My colleagues are Mr. John E. Javernick, farmer and rancher from the Canon City area, representing the Upper Arkansas Basin in Colorado. Mr. Lee Hancock, retired Superintendent of the High Line Canal Company near Rocky Ford, representing the Lower Arkansas Basin. Mr. Raymond D. Nixon, retired Executive Director, Department of Public Utilities for the City of Colorado Springs, representing the municipal and domestic water users, and Mr. William McDonald, Director, Colorado Water Conservation Board in Denver, representing the office of the Governor. We are truly honored today, Mr. Chairman, and members of the Committee, to join our colleagues from the other great states of Arkansas, Missouri, Oklahoma and Kansas, who make up the Interstate Committee. We met for our Annual Meeting in Tulsa, Oklahoma March 6, 1990, and appear before you today as a unified group respectfully requesting appropriations for necessary water resource projects in our five states.

The members of the Colorado delegation have carefully reviewed the construction, operation and maintenance requests submitted by President George Bush for Projects in Colorado, and wholeheartedly endorse each of them as essential elements in the continued programs of the U.S. Bureau of Reclamation and the U.S. Army Corps of Engineers. The Administration Budget for FY 1991 recommends the following:

U.S. Bureau of Reclamation - Fryingpan-Arkansas Project:
  Construction ---------------------- $1.467 million
  O & M --------------------------- $2.298 million

Leadville Mine Drainage Tunnel ------- $3.36 million

U.S. Army Corps of Engineers:
  John Martin Reservoir O&M ----- $2.021 million
  Trinidad Lake O&M -------------- $701,000

The construction funds recommended for the Bureau of Reclamation for the Fryingpan-Arkansas Project will permit the Bureau, the City of Pueblo and the Bessemer Irrigating Ditch Company, to complete a three year rehabilitation program on the Bessemer Ditch as it courses its way through the heart of the City of Pueblo. The funds will also permit the Bureau to uprate the Northside Collection System of the Project, and initiate contracts for uprating static start equipment, and installing controlling equipment at the 200 megawatt Mt. Elbert Pump Back Storage Peaking Power Plant. The funds for the Leadville Mine Drainage Tunnel will permit the Bureau of Reclamation to complete construction on this important water quality project. This will be the first time the Bureau of Reclamation has been involved in such a program in the Arkansas Valley, and, when completed, will treat historic mine waters which have caused serious pollution to a major section in the headwaters of the famous Arkansas River. It is my strong recommendation, Mr. Chairman, and members of the Committee, that the Bureau of Reclamation be authorized and directed to continue the water quality research in the Upper Arkansas Valley, which led to the authorization and construction of this treatment plant. They can utilize the data accumulated over many years by the U.S. Geological Survey and other agencies, and provide engineering and construction expertise at a time when water quality is paramount throughout the United States.

Mr. Chairman, I am pleased to report that the Corps of Engineers and the City of Pueblo completed construction of the much needed Fountain Creek Flood Control Project, which was authorized in the 1986 Water Resources Development Act. Brigadier General Robert C. Lee, Division Commander, and officials from the City of Pueblo, officially dedicated this Project on 9 November, 1989, and it is significant it was completed well ahead of schedule, and within the budget constraints. It is a prime example of the cooperation which can and must be developed between federal and local agencies for such Projects.

In that regard, while outside the geographic boundary of the Arkansas River Basin Interstate Committee, I would like to strongly recommend your approval of a request of the Albuquerque District of the U.S. Army Corps of Engineers, for $240,000 to continue preconstruction engineering and design for an essential Flood Control Project in the City of Alamosa in the Rio Grande Basin in Colorado. I am personally familiar with that area, and would equate that Project to the Fountain Creek Flood Control Project in Pueblo as being absolutely essential to provide 100 year protection against massive and devastating floods in the downtown area of the largest city in the San Luis Valley.

The delegation from Colorado joins with our colleagues from the other four states in authorizing the appropriation of funds to initiate land acquisition which would "initiate construction" of the Montgomery Point Lock and Dam at the mouth of the White River. This Project was thoroughly discussed at the Annual Meetings of the Committee in 1989 and 1990, and we are keenly aware of the serious problems which can, and undoubtedly will, occur in the future if this Project is not completed at an early date. It is a situation which is the result of changes in flow conditions along the Mississippi River, and I call your attention to the excellent statement presented by our colleagues from the great State of Arkansas, who set forth specifics in their testimony.

Mr. Chairman, and members of this distinguished Committee, I have appeared before you each and every year since 1966, and am certainly pleased to call your attention to the fact the amounts of money requested in my testimony this year are the lowest ever requested. This is a result of the fact the Fryingpan-Arkansas Project, which was authorized in 1962, is complete, with the exception of several small projects in the recreation area near Pueblo Reservoir. The Corps of Engineers has completed work on projects recommended as a result of the devastating 1965 flood. We again want to sincerely compliment you, and thank you and your predecessors, for the foresight, wisdom and courage, which each of you have demonstrated down through the years by providing funds for essential water resource management programs throughout the United States. Those of us in the water resource management business dread to think what problems would face our nation today, in both water quantity and quality, were it not for that foresight. The drought of the past few years, and the threat of continued drought this year throughout much of the nation, has focused public attention to the absolute importance of strategically located reservoirs, which can impound waters during times of surplus, prevent flooding, and make those waters available in periods of shortage for domestic, agricuture, transportation and recreational uses. I have considered it an honor each year, Mr. Chairman, and members of the Committee, to be permitted to appear before you, and I only wish I could adequately express the sincere appreciation which all of the people served by our District feel for the leadership you have provided.

STATEMENT OF ARTHUR T. WOODMAN, KANSAS CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of this distinguished Committee, I am Arthur T. Woodman, Architect, with offices in Wichita, Kansas, and Chairman of the Kansas Interstate Committee for the Arkansas River Basin. This statement is submitted today, representing the Kansas Delegation, and my colleagues are Roger Brown, Bank Executive, Arkansas City; James O. Foster, Business Management Coordinator for Boeing Military Aircraft, Wichita; Frank Liebert, Attorney-at-Law, Coffeyville; and Taylor Peckham, Insurance Executive, Augusta.

We are honored to join with our colleagues from the great states of Arkansas, Colorado, Missouri and Oklahoma, which five (5) states comprise the Arkansas River Basin Interstate Committee. We appear before you in unison today and fully endorse the statement of the Chairman of the Arkansas River Basin Interstate Committee.

The water resource projects in the Kansas portion of the Arkansas River Basin have been carefully reviewed by the Kansas delegation and reflect accurately the needs as presented in the Administration Budget, FY 1991, many of which are safety and conservation oriented. We again call your attention to those of the Corps of Engineers for construction:

Great Bend Flood Control	$ 9,000,000
Halstead Flood Control	2,200,000

The Great Bend project construction continuation will stop flooding of a great city in west/central Kansas. The Halstead Project is vital to the preservation of a community recognized for the outstanding major regional hospital and medical services to a regional farming community. The citizens of this relatively small municipality of Halstead have dedicated themselves to stretch finances for local share and they are most deserving of construction of their flood control project for major protection.

Similar appropriations are equally important to continue development of flood control protection by continuation of preconstruction design:

Arkansas City Flood Control	$ 300,000
Winfield Flood Control	150,000
Upper Little Arkansas River Watershed	210,000

Of particular note and importance are the ongoing research and planning projects in the Administration Budget for your continued support which will provide data for intelligent decisions on major and vital water resource development in Kansas for the future, such as those of Department of Interior, Bureau of Reclamation:

Arkansas River Management Improvement Study	$ 240,000

In addition, we state herewith our unanimous support for the critical Montgomery Point Lock and Dam Project to maintain viable commerce of navigation between the McClellan-Kerr Waterway and the Mississippi River.

In memoriam, we take this opportunity to recognize the effort and dedication of Col. E. L. Morris, Ret. over the years on behalf of the Arkansas Basin Development and all that it represents.

Mr. Chairman and Members of this Committee, we wish to thank you for the dedicated manner in which you and your distinguished colleagues in the Congress of the United States have dealt with the Water Resources Programs in allowing us to present our views and recommendations to you. We look forward with great expectations and hope for the future of water resource development in Kansas and the Arkansas River Basin.

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTRUCTION ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
KANSAS					
ARKANSAS CITY, KS	FC		300,000		
ARKANSAS RIVER AND TRIBUTARIES, GREAT BEND, KS TO TULSA, OK	FDP	582,000			
CANEY RIVER, KS & OK	FDP	210,000			
CLINTON LAKE, KS	FC				1,364,000
COUNCIL GROVE LAKE, KS	FC				1,002,000
EL DORADO LAKE, KS	FC				450,000
ELK CITY LAKE, KS	FC				723,000
FALL RIVER LAKE, KS	FC				976,000
GREAT BEND, KS	FC			9,000,000	
HALSTEAD, KS	FC			2,200,000	
HILLSDALE LAKE, KS	FC				961,000
JOHN REDMOND DAM AND RESERVOIR, KS	FC				1,100,000
KANOPOLIS LAKE, KS	FC				1,504,000
MARION LAKE, KS	FC				740,000
MELVERN LAKE, KS	FC				1,375,000
MILFORD LAKE, KS	FC				2,039,000
MISSOURI RIVER - SIOUX CITY TO MOUTH, IA, NE, KS & MO (SEE IOWA)					
MISSOURI RIVER F&WL MITIGATION, IA, NE, KS & MO (SEE IOWA)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTRUCTION ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
KANSAS (CONTINUED)					
MISSOURI RIVER LEVEE SYSTEM, IA, NE, KS, & MO (SEE IOWA)					
PEARSON - SKUBITZ BIG HILL LAKE, KS	FC				755,000
PERRY LAKE, KS	FC				1,503,000
POMONA LAKE, KS	FC				1,251,000
SOLDIER CREEK DIVERSION UNIT, TOPEKA, KS	RCP	120,000			
TORONTO LAKE, KS	FC				388,000
TURKEY CREEK BASIN, KS AND MO	FDP	100,000			
TUTTLE CREEK LAKE, KS	FC				1,360,000
UPPER LITTLE ARKANSAS RIVER WATERSHED, KS	FC		210,000		
WILSON LAKE, KS	FC				1,171,000
WINFIELD, KS	FC		150,000		

Bureau of Reclamation

SCHEDULE OF GENERAL INVESTIGATIONS PROGRAM

Region	Project		State
Great Plains	Arkansas River Water Management Improvement Study		Kansas
Initiation	Completion	Percentage Cost Sharing	Type of Study
FY 1989	FY 1992	38	Special Investigation

Summarized Financial Data

	Estimated Total	Estimated Total to September 30 1989	Program FY 1990	Estimate FY 1991	Balance To Complete
Reclamation:	$ 990,000	$ 150,000	$ 400,000	$ 240,000	$ 200,000
Non-Federal:	625,000	175,000	150,000	150,000	150,000
Other Federal:	--	--	--	--	--
Total	$ 1,615,000	$ 325,000	$ 550,000	$ 390,000	$ 350,000

Description of Study

The study area is located in south-central Kansas within the Arkansas River Basin from Hutchison downstream to Wichita, Kansas. There is a potential for poor quality streamflow in the Arkansas River between Hutchison and Wichita to contaminate the water quality in the adjacent alluvial aquifer. Available information gathered by the USGS indicates that a hydraulic connection may exist between the river and the aquifer, and that there could be a difference of up to 1,800 mg/l total dissolved solids between the river water and the water in the aquifer. However, no quantitative definition of the streamflow/aquifer interaction is available to determine the effect of the Arkansas River on the alluvial aquifer.

In this Basin, where 70 percent of the water use is for irrigation and which also contains the largest urban area in the State, the need to plan for adequate quantities of good quality water for all purposes is great. Future groundwater quality degradation would have a serious impact on the availability of water for municipal and industrial purposes, especially from the Equus Beds aquifer that supplies water to the Wichita metroplex. There is also a potential for water conservation and improved efficiencies of water use through management efforts within this area. Studies are warranted to define the extent of this problem. Based on the findings, there is a need to develop potential solutions to correct or stabilize any contamination.

This study is supported by the Kansas Water Office, Kansas Water Authority, city of Wichita, and Equus Beds Groundwater Management District No. 2. Potential for cost-sharing and in-kind services appears favorable pending appropriation of funding by the State Legislature.

STATEMENT OF HAROLD B. SCOGGINS, OKLAHOMA CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

SUMMARY OF OKLAHOMA STATEMENT

We urge that the Congress ensure that the construction account of the McClellan-Kerr Arkansas River Navigation System remain open. Serious problems have arisen at the waterway entrance to the navigation system. Extensive testing has proved that construction of Montgomery Point lock and dam will be necessary to correct the problem. This problem must be corrected quickly and connot stand the time consuming delays of new appropriations if the construction account is closed.

We ask Congress to provide the funds necessary to the National Guard Bureau specifically to build permanent dock facilities at Boudinot Safety Harbor and a similar facility at W. D. Trimble Lock and Dam. We urge the continued study of the movement of munitions on the Nations Inland Waterways.

We express our great concern over the issue of cost-sharing requirements to be implimented in the Planning Assistance to States program.

Mr. Chairman and members of the Committee, I am Harold B. Scoggins, Oklahoma Chairman of the Arkansas River Basin Interstate Committee, from Muskogee, Oklahoma.

It is my privilege to present this statement on behalf of the Oklahoma members of our Committee in support of adequate funding for water resource development projects in our area of the Arkansas River Basin. Other members of the Committee appointed by the Governor are: Mr. Fred G. Turner, Mr. Coleman Fite, Mr. E. R. Albert, Jr. and Mr. Robert S. Kerr, Jr.

Together with representatives of the other Arkansas River Basin states, we fully endorse the statement presented to you today by the Chairman of the Arkansas River Basin Interstate Committee.

We appreciate the opportunity to present our views of the special needs of our state concerning several studies and projects.

We urge that Congress ensure that the construction account of the McClellan-Kerr Arkansas River Navigation System remain open. Serious problems have arisen at the waterway entrance to the navigation system. Extensive testing has proved that construction of Montgomery Point lock and dam will be necessary to correct the problem. This problem must be corrected quickly and cannot stand the time consuming delays of new appropriations if the construction account is closed.

We also urge that Congress ensure that adequate funds are available for continued repair of the damage caused at Dam 2 during the floods of 1982.

We are particularly pleased that the President's budget includes funds to advance work for flood control in Oklahoma. As you know, our State was devastated by the flood of October 1986. The flood caused almost 300 million dollars in property damages. Existing flood control projects prevented over 700 million dollars in damages which would have occurred without those projects. Of special interest to our committee is funding of $4.4 million for rehabilitation of Wister Dam and for authorized flood control projects including release of $200,000 for Parker Lake in southeastern Oklahoma; $13,600,000 for Mingo Creek, Tulsa, Oklahoma; and $168,000 for Fry Creeks, Bixby, Oklahoma. Funds in the budget are needed for the following flood control studies: the Caney River in the vicinity of Bartlesville, Oklahoma; Grand (Neosho) River in the vicinity of Miami, Oklahoma; Arkansas River Basin Feasibility Study, Arkansas and Oklahoma; Crutcho Creek, Oklahoma Channel Improvement. We also support funding for the Small Flood Control Projects Program, (Section 205 of the 1948 Flood Control Act, as amended). Funds are needed under that program to provide local flood protection along Sam Creek, Muskogee, Oklahoma; Merkle Creek, Norman, Oklahoma; Coweta Creek, Coweta, Oklahoma; Coal Creek, Henryetta, Oklahoma; Washita River, Lindsay, Oklahoma; Tahlequah Creek, Tahlequah, Oklahoma; Joe Creek, Tulsa, Oklahoma; and Chikaskia River, Blackwell, Oklahoma; and many other areas within our State. We support funding for the Emergency Streambank Stabilization Program, (Section 14 of the 1946 Flood Control Act, as amended). Funds are needed under that program to prevent streambank erosion and resulting damages to public facilities along Tyner Creek, Adair County, Oklahoma; North Canadian River, Spencer, Oklahoma; the Arkansas River, Tulsa, Oklahoma; the North Canadian River, Oklahoma County, Oklahoma; the North Canadian River, Pottawatomie County, Oklahoma; the Washita River, Caddo County, Oklahoma; Salt Fork of the Arkansas River, Kay County, Oklahoma; and many other areas within our State.

Of particular interest, given today's economy and the budget constraints under which the Defense Department is being required to operate, is the military's use of the inland waterways. It has been with unrelenting effort of some regional organizations that some rather extensive test moves of National Guard equipment have been accomplished in the past year at substantial savings to the military. It is in this light that we ask Congress to provide the funds necessary to the National Guard Bureau specifically to build permanent dock facilities at Boudinot Safety Harbor on the McClellan-Kerr Waterway to serve Camp Gruber, Oklahoma, and a similar facility at W. D. Trimble Lock and Dam near Fort Smith, Arkansas, to serve Fort Chaffee. The Oklahoma and Arkansas Army National Guards have acquired deck barge assets on loan from TROSCOM and the dock facilities are needed to maximize the savings potential and defense preparedness that can accrue from water transportation. We urge the continued study of the movement of munitions on the Nations Inland Waterways by the Department of the Army and the Military Traffic Management Command (MTMC).

There are seven projects omitted from the Federal budget that, in our opinion, are critical to the continued development of water resources in Oklahoma. We are requesting that the Committee add the projects and funding outlined herein.

Of those seven, we specifically ask the Congress to provide funds to Initiate the Reconnaissance Study for Navigation into the vicinity of Pryor, Oklahoma. We ask the Congress to provide funds for the Corps of Engineers to continue Preconstruction Engineering and Design on Sand Lake in northeastern Oklahoma. This work should not be forsaken for imagined difficulties in future land acquisition.

We appreciate the concern the Subcommittee has shown in the past regarding a drastic reduction in funding of water resource development in this country. We support and encourage continued water resource development to ensure America's future growth and prosperity.

Section 1121 of the Water Resources Development Act of 1986 amended the Water Resources Research Act by adding a new title, "Ogallala Aquifer Research and Development" program. The purpose of the program is to provide the mechanism to implement the recommendations of the Ogallala Aquifer Regional Study, which was funded by Congress in 1976 and completed in 1982.

The new legislation established provisions for a High Plains Study Council and authorized comprehensive research and development programs designed to provide improved economic security through innovative and efficient management of groundwater resources in the Ogallala Region. Although the program was authorized in 1986, funds for its implementation have not been appropriated.

The impacted states of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas and Wyoming agreed to pursue funding, thus the High Plains Study Council was formed, as stipulated by the 1986 Act, in the Spring of 1989.

We strongly support funding of the Ogallala research and development program as a means to increase the value of farming and net returns to farmers, while extending the economic life of a valuable resource.

Studies on the feasibility of reconstructing existing Arkansas River levees are one of the major work efforts being conducted in accordance with the cost-sharing agreement for the Arkansas River Basin, Arkansas and Oklahoma, Feasibility Study.

During the course of the study, the Corps of Engineers Headquarters unilaterally implemented a policy declaring that there is no federal interest in the rehabilitation or reconstruction of existing levees (except under extremely special conditions). Headquarters' justification for this change in policy is that Title I of the Water Resources Development Act (WRDA) of 1986 requires that the cost of operation, maintenance, replacement and rehabilitation be borne by the non-federal sponsor. Thus, Corps Headquarters is attempting to retroactively apply the provisions of the 1986 Act onto previously entered into agreements (Circa 1940) between the Corps of Engineers and the local levee districts. In actuality, the agreements provided for non-federal operation and maintenance (O&M) responsibilities only. Based on the provisions of their original agreements with the Corps of Engineers, the local levee districts understandably have only budgeted for O&M expenses -- no major rehabilitation and replacement costs. Although maintenance is continuing, the reconstruction required for the levees exceeds the financial capabilities of the local levee districts.

The provisions of the WRDA of 1986 should not be applied retroactively to projects cost shared under prior laws and previous agreements.

We want to again express our great concern over the issue of cost-sharing requirements to be implemented in the Planning Assistance to States program (Section 22 of the 1974 Water Resources Development Act and the Flood Plain Management Services program, Section 206 of the R&H and FCA of 1960). As stated in last year's testimony, we strongly oppose cost sharing for these service programs. Cost-sharing could result in much needed information not being made available to State water resource planning efforts. Our committee believes that the costs of administering a cost-sharing program would more than offset the savings.

Finally, Mr. Chairman, we want to take this opportunity to recognize the passing of one of our colleagues, Col. E. L. Morris, Ret. The long years of effort and dedication by Col. Morris, and his appearance before this distinguished Committee on behalf of the Arkansas River Basin Development, will be greatly missed.

We thank the distinguished Committee for the opportunity to present our views of Fiscal Year 1991 requirements for water resource development in Oklahoma

FISCAL YEAR 1991

OKLAHOMA - - Recommendations in Addition to the President's Budget

	Project:	Funds Requested to:
1.	Arkansas Basin Chloride Control Project	Continue Advanced Engineering and Design
2.	Arkansas-Red River Basin Solar Energy Investigations	Continue Study
3.	Big and Little Sallisaw Creek Navigation Project	Initiate Construction
4.	Candy Lake	Continue Construction
5.	Sand Lake	Continue Advanced Engineering and Design
6.	Pryor, OK, Navigation	Initiate Reconnaissance Study
7.	Kaw Dam to Keystone Lake Bank Stabilization	Initiate Reconnaissance Study

We also urge the Congress provide funds to the Bureau of Reclamation sufficient to continue the Northwest Oklahoma Study and the Cimarron Basin Study.

STATEMENT OF CHARLES D. MAYNARD, BOARD MEMBER, ARKANSAS WATERWAYS COMMISSION

My name is Charles Maynard, one of seven board members of the Arkansas Waterways Commission. The basic purpose of the Commission is to develop commercial navigation on our five navigable rivers, the Arkansas, Mississippi, Ouachita, Red and White. The one that needs the help and right now is the McClellan-Kerr Arkansas River Navigation System. I appear here today on behalf of that Commission and for the Arkansas River Basin Coalition for Montgomery Point Lock and Dam, which represents a group of many organizations in Arkansas and Oklahoma.

The System consists of the White-Arkansas-Verdigris Rivers, the problems in its first ten miles of the White River.

In that stretch the elevation of the water is determined by the level of the Mississippi as this reach of the System is the backwater of the Mississippi. The success of the U. S. Army Corps of Engineers in controlling the flooding on the Mississippi River is responsible for the problem on the lower part of the McClellan-Kerr System.

The Arkansas River and Tributaries, Arkansas and Oklahoma was authorized by Congress in 1946 (House Report 79-758) and at that time the Corps plans included a lock and dam essentially at the site (mile .5 right descending bank) where one has been needed since 1980. This dam, along with the others, one in western Arkansas and one in eastern Oklahoma, were deleted from the project as at the time it was believed by the Corps that there was no need. The Corps was right about the upstream two dams but mother nature is going to have her way about the one we now call Montgomery Point Lock and Dam.

For more than 35 years the Corps had monitored the elevation of the water at mile 599 on the Mississippi River, the entry point of the System into the Mississippi. In 1962, studies established that the top of the water at this river mile would not go below 110' and the quantity of water carried by the Mississippi at this elevation was documented at 100,000 cfs. But in the 1930's there were cutoffs made on the Mississippi below Vicksburg and Greenville. Bank paving, the needed training works for flood control were just getting underway. Today, almost 90% of the Mississippi River flood control portion of the project is complete and the water level has dropped below 110' at mile 599.

The Corps has done a superb job on its flood control of the Mississippi. It is now carrying a greater quantity of water at a lower elevation and this has been and is good for the Mississippi River Valley. However, it has adversely impacted the Arkansas River Navigation System.

Today at mile 599 for water to be at 110' it requires 175,000 cfs of (Mississippi River) water moving by this location. Further, almost each year during the 1980;s the elevation has dropped below 110'. In 1989 it went below 105'. Please remember that the Mississippi River determines the amount of water in the first ten (10) miles of the system.

The McClellan-Kerr Navigation System got off to a roaring start in 1970. The 445 mile system with 17 locks and dams, allows navigation to move from the Mississippi River entrance channel to Tulsa, OK. Tonnages moved from zero (0) to the 8-10 million tons annually in the first 6-7 years but then the low water problem occurred. So we nave a $1.3 billion project that has a national reputation of being unreliable.

This is because low water on the average will restrict use 42 days a year. I believe you know what uncertainty does for business and I believe you can appreciate the seriousness of the problem if, as a businessman, you were told you couldn't get anything into or out of your place of business for more than 10% of the time. In development terms, it means industry will not settle in the Basin and use the

System which was created to provide the water users this mode of travel, which excluding pipelines, is the least expensive mode of transportation.

The potential annual tonnages that could move on the system are in the range of 35-45 million tons. Yet, we continued to be in the 8-10 million range. Montgomery Point Lock and Dam should allow this movement.

The lock and dam we now need was in the original project. The Construction General Account used by the Little Rock District Engineer to build the System is still active. The Corps placed $840,000 for detailed design studies in the President's 1991 budget. The Corps will tell you privately that the project is required. The system isn't working as the Corps said it would, yet questions are raised as to the Corps authority to construct the project.

The Little Rock District is now completing the navigation aspects of the Arkansas River Basin Comprehension Study, and will forward its report the end of March. Every indication is that the Montgomery Point Lock and Dam is needed, has a favorable benefit cost ratio and has minimal environmental aspects, most of which are favorable and one half the cost of the structure will be recovered over the life of the project by the elimination of dredging presently required.

Perhaps the Coalition or the Arkansas Basin Association or the Arkansas Waterways Commission or Arkansas Basin Development are to close to the issue but as an engineer if I let a contract (authorize) a company to build a house for me, that company is authorized or under contract to build that house until it is accepted by me or the contractor is told to stop the construction of the house.

In this case, Congress has not told the Corps to stop construction. On the contrary, the LRDE's Construction General Account has been left open. The Corps has asked for more money to continue the work but most importantly the project is not working like Congress told the Corps it wanted the System to work.

It is my honest sincere belief that it is the will of Congress for the Corps to get on with the job. We know that it will take 4-5 years to build the lock and dam. This means that both the public ($1.3 billion) and private investment ($2 billion) and some 55,000 jobs will be at risk until the System operates dependably. Further, we both know added investment will lag until the whole project is dependable and maximized.

The Coalition requests that the Committee put the authorization issue to rest by informing the Corps that you want the project finished and further because of the urgency of construction you want the LRDE to purchase the land for the project in this calendar year.

If you have questions, I will be glad to answer them. I do thank you for allowing me the opportunity to come before you and discuss this crucial infrastructure issue with you. I will be happy to furnish any additional information you desire.

STATEMENT OF BARRY McKUIN, PRESIDENT, ARKANSAS BASIN ASSOCIATION

Mr. Chairman and members of the committee, my name is Barry McKuin and I am from Morrilton, Arkansas.

There are many comments that could be made relative to the McClellan-Kerr Arkansas River Navigation System. However, there is one single project that stands out in need over all others. That project is Montgomery Point Lock and Dam, at the mouth of the McClellan-Kerr Navigation System. It is essential that we have timely congressional action for the purchase of land to begin this crucial project.

We support the testimony of the five-state Arkansas River Basin Interstate Committee and request that you favorably consider our requests.

FLORIDA WATER RESOURCE PROJECTS

PREPARED STATEMENT FOR THE RECORD

Senator DECONCINI. I forgot to include in the record when the Alabama, Georgia, Florida groups were here, a statement submitted by the State of Florida covering several projects of importance to that State.

If there is no objection, that statement will be made part of the record.

[The statement follows:]

STATEMENT OF DALE TWACHTMANN, SECRETARY, FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Good morning, Mr. Chairman and members of the Subcommittee. My name is Dale Twachtmann, Secretary of the Florida Department of Environmental Regulation. Today, I am pleased to present to you Florida's Fiscal Year 1991 Program for Water Resources Development. We strongly support this program, which is a request for appropriations of 107 million dollars for 46 studies and projects. I am submitting, along with my prepared remarks, a booklet containing project descriptions, justifications and costs.

Before I begin my specific remarks about Florida's FY 91 program, I must express our sincere appreciation to the Subcommittee, to the Florida Delegation, and to Congress as a whole, for previous Florida water resource appropriations. It has made a big difference to Florida. We depend heavily on the flood control, navigation, and beach erosion control work that you authorize and fund and that the Army Corps of Engineers so diligently constructs and maintains.

This has been true for over a hundred years in Florida. Today, we have a population of 12.5 million people and have become the fourth largest state. Our need for proper water resource management is significantly inceased as we handle the demands of over one thousand new residents each day and almost 40 million visitors each year. Our diverse water resources, combined with a warm subtropical climate, continue to be major attractions for both visitors and new residents, but they also place new burdens on us.

In its effort to protect and conserve what we have, Florida has been a national leader in water resource management. We are heavily involved in traditional water resource projects, but also have sponsored innovative programs. For example, we have been active in the acquisition of floodplains and beaches and beach access and we have an outstanding wetlands protection program. Over the last two decades, Florida has invested 750 million dollars in the purchase of two million acres of natural areas. We will invest over a billion dollars more in the next decade. Most of these acquisitions are for special lands that are most vital to the State's water resources.

Clearly, strong protection and wise management of our water resources are in the best interest of our state and our nation. As Florida grows, it is our hope that Congress and the Corps will continue support for our needs.

Individual Projects

Now we present some of the highlights in the FY 91 program request. Instead of giving you a lot of facts and figures, I will discuss just a few of the more important and innovative projects and studies proposed for FY 91. The details on each project are contained in the program booklet we submitted.

Flood Damage Prevention and Water Supply

Under the category of "Flood Damage Prevention and Water Supply", funding is needed for one of the nation's largest and most complex water management systems: the Central and Southern Florida Flood Control Project. Recent trends in water quality underscore the need for State and Federal participation in the management of Lake Okeechobee and the entire south Florida water system. Without wise management, Lake Okeechobee (one of our country's largest lakes) could have its water quality so impaired that it could seriously affect its outstanding recreational and water supply functions. Further deterioration of Lake Okeechobee could also damage the special wetlands ecosystem of the entire southern portion of Florida, including the Everglades. The Central and Southern Florida Flood Control Project also provides flood and hurricane protection, as well as important agricultural water supply.

Included in the Central and Southern Florida Flood Control Project again this year is the Kissimmee River Restoration Project. The restoration of the Kissimmee River to its former meandering path and the reflooding of former flood plains will go far toward improving the water quality of the river and Lake Okeechobee. The Kissimmee River as it exist now is a conduit for excessive pollutants and nutrients to flow unrestricted to Lake Okeechobee causing serious water quality problems. Reflooding of old flood plains will cause much of the nutrient load to be assimilated by the resulting wetlands. Additionally, wading bird habitat will be greatly increased as will habitat for fish and other species. It has been shown by the demonstration project that these benefits will occur. So far you have appropriated over 6 million dollars to the Corps for this project We are asking for 6 million dollars this year to continue this massive restoration project. The State has committed millions of dollars to purchase channel easements and floodplains which will be reflooded. Governor Martinez has asked for 12 million dollars in the current state budget for this project. In short, the state has invested millions in this project and is committed to spend much more. We respectfully request continued federal support to help with this project which is vitally important in restoring water quality in the River and Lake Okeechobee.

Regarding the Shark River Slough restoration effort, we strongly support the President's budget request of $7.5 million. This will fund modifications of existing water control structures within the Central and Southern Florida Project resulting in improved hydrology of heavily stressed Everglades National Park. This funding could be provided through either the Department of Interior or the Army Civil Works budget. Regardless of the method chosen, Congress should insure that funding is available for the Corps of Engineers to proceed as authorized under the recently enacted Everglades National Park expansion (Public Law 101-229).

Another major component of the Central and Southern Florida Project, the Upper St. Johns River Project, is a non-structural flood control project which is now being implemented. The project will reduce flood damages and increase water supplies, while improving the natural environment through wetlands enhancement. This is one of those Florida projects with a local cost share much higher than usual. Approximately seventy-five percent (75%) of the $107 million project cost will be assumed by the local sponsor.

Navigation

Ports are extremely important to Florida. We have fourteen deep water ports, which include some of the nation's busiest. Import and export traffic helps to diversify our economy. Our FY 91 request would fund studies at some ports and construction at others. Our current request includes funds for eight port projects, four navigational passes and the Miami River Cleanup Project. The Miami River Project proposes to dredge polluted bottom sediments from the river. This will help to correct water quality problems which have developed over many years. In the Water Resource Development Act of 1986 you authorized the Corps of Engineers to remove the sediments. In December,1989, the Corps of Engineers completed a Draft Feasibility Report which recommended no action toward cleanup of the Miami River except for what will be accomplished through routine maintenance dredging of the navigation channel. We certainly appreciate what will be cleaned up through maintenance dredging. However, we encourage your support for the Corps to work with us toward cleaning up that portion of the River which lies outside of the navigation channel.

Beach Erosion Control

Beaches are, by far, the largest attraction for the 40 million people who visit Florida each year. We have 800 miles of sandy beaches in Florida. About 218 miles of those beaches are experiencing severe erosion. The ability to help control that erosion is critical to Florida's beaches and to much of our economic base.

Florida has been doing a great deal on its own. We have committed over 250 million dollars to purchase many miles of coastline. Additionally, over 105 million dollars have been invested by the State since 1965 on beach restoration and preservation efforts. In 1987, the State initiated a Comprehensive Beach Management Program. Since that time, over 15 million dollars for beach preservation and restoration have been appropriated on an annual basis. Additionally, local governments have committed and spent considerable sums to match state and federal dollars in these efforts. Most of these are local cost-share funds for Federal projects. Your continued assistance in this partnership is very important.

Environmental Restoration and Enhancement

Restoration and enhancement of water resources in Florida is a vitally important as our economy and quality of life are dependent on maintaining the environment that we have. One of our major goals is to broaden the scope of Federal participation to include studies and projects that address the need for restoration and enhancement of certain problem areas. For FY 91 we have included the Biscayne Bay Survey Review which will study cumulative environmental impacts to Biscayne Bay caused by previously authorized projects. Also included is the Lower Hillsborough River Water Quality Enhancement Study which proposes to study the effects of periodic dredging of polluted sediments on water quality. The State looks forward to working with the Army Corps of Engineers regarding these studies and encourages the Subcommittee to provide funding for them.

Conclusion

We affirm the State of Florida's committment to water resources development as outlined in our program booklet and look forward to working with the Congress to achieve these goals.

Notice of Revision

The Kissimmee River Restoration Project description, located on page 5 of the program book, should be revised as follows:

This project, located in Highlands, Okeechobee, Osceola, and Polk Counties, covers construction of Part I: Kissimmee River Restoration of the Level II Backfilling Plan. Part I involves backfilling three to five miles of the canal in the central reach of the river. This will be the first step towards backfilling a continuous 25 to 30 mile section of the canal and will restore approximately 8500 acres of floodplain wetlands. Part I will be monitored and evaluated before subsequent work is scheduled. FY 91 funding request is for $6,000,000.

Florida Department of Environmental Regulation
Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400
Bob Martinez, Governor
Dale Twachtmann, Secretary
John Shearer, Assistant Secretary

March 9, 1990

Honorable Tom Bevill, Chairman
Energy and Water Development Appropriation Committee
U. S. House of Representatives
Washington, DC 20515

Dear Representative Bevill:

We have enclosed the State of Florida's Fiscal Year 1991 Program of Public Works. This document contains the unified program of public works projects and studies that are consistent with the State's goals and objectives.

For FY 1991, we received 60 public works applications. All were circulated for review and comment through the State's clearinghouse of state and regional agencies. Summarized in this booklet are 46 projects and studies which are recommended for federal funding.

We appreciate support in past years for the operation and maintenance, study, and construction of public works in Florida. We look forward to working with you on the FY 1991 request.

Sincerely,

Dale Twachtmann

Dale Twachtmann
Secretary

DT/jb

Enclosure

INTRODUCTION

This document presents the FY 1991 unified program of Public Works studies and projects that have been determined to conform with the goals and objectives of the State of Florida. As provided in Chapter 373, Florida Statutes, the Department of Environmental Regulation (DER) is directed to select those water resource projects that provide for the "public welfare and interest of the people of the state as required for the proper development, use, conservation, and protection of the waters of the state." After selection, these projects are presented to the appropriate Federal agencies and the Congressional Appropriation Committees.

The State's annual public works program begins each February with the Water Resources Development Conference. Following the conference, proposals are evaluated through the State and Regional Intergovernmental Coordination and Review Process. The scope of this review includes technical adequacy and completeness, as well as general conformance with applicable State and regional goals, policies, and objectives. The results of this review are carefully evaluated. Each study and project submitted is considered for inclusion in the State's program.

Projects are grouped into four categories: Flood Damage Prevention, Navigation, Shore Protection, and Environmental Restoration and Enhancement. Estimates of cost are derived from local sponsors and the Army Corps of Engineers. The descriptive narrative and proposed benefits statements included in this booklet are developed using data provided by local sponsors, the Army Corps of Engineers, DER staff, and other sources.

A Department recommendation for funding does not indicate the granting of any applicable permits at either the State or Federal level. In most instances, some form of permit must be obtained, unless waived through a separate process, and the securing of these permits remains a responsibility of the local sponsor.

FLOOD DAMAGE PREVENTION

Central and Southern Florida Flood Control Project

Sponsor: South Florida Water Management District

County: 16 County Area

Type Application: Study, PE&D, Construction

Estimated Federal Cost	$930,000,000
Estimated Non Federal Cost	537,000,000
Federal Funds Through FY 90	352,385,000
Non Federal Funds Through FY 90	56,465,000
State of Florida Request for FY 91	* 35,292,000

History/Description

The Central and Southern Florida Flood Control Project (C&SFFCP) is an extensive system of water control works first authorized by Congress in 1947. The project area encompasses approximately 17,930 square miles spread over sixteen counties and includes the Kissimmee River Basin, Lake Okeechobee and its regulatory outlets, the Everglades, and the lower east coast of Florida. The initial purpose of the project was primarily flood control, however its objectives were expanded by the Army Corps of Engineers and Congress in 1968 to provide for increased storage and conservation of water and improved distribution of water throughout the project area. The local sponsor, the South Florida Water Management District (SFWMD), has requested the following project components for FY 91:

(A) Hillsboro Canal Survey Review. This feasibility study which will evaluate alternative means of reducing flood damages to portions of Palm Beach and Broward Counties. Potential measures for increased flexibility in discharges from Water Conservation Area 1 will also be examined as a part of this study. FY 91 funding request is $100,000.

(B) C-111/South Dade Flood Control Project. This project, located in Dade County, proposes modification of an existing canal to restore more natural water regimes to part of Everglades National Park without lowering existing levels of flood protection for other areas. FY 91 funding request is for $200,000.

(C) Herbert Hoover Dike Project. This project, located in Glades, Hendry, Palm Beach, Okeechobee and Martin Counties, seeks funding for continuation of construction work on Lake Okeechobee Herbert Hoover Dike Revetment. This construction will protect the integrity of the existing dike from erosive wind and wave action during upper stages of water level regulation. FY 91 funding request is for $5,000,000.

(D) Shingle Creek Basin Project. This project seeks construction funding for correction of flooding problems and enhancement of water quality for portions of Orange and Osceola Counties. The project involves enlargement of a drainage canal, construction of environmental enhancement structures, flood control structures and a bypass canal. These improvements will restore proper flow through wetlands, enhance groundwater levels and provide flood protection for a residential area. FY 91 funding request is for $1,992,000.

(E) St. Lucie Canal Stabilization. This project, located in Martin County, seeks Preliminary Engineering & Design funding to correct a navigational hazard and to enhance water quality of the St. Lucie Estuary. The project involves stabilization of eroding canal banks which will prevent sedimentation and shoaling problems in the navigation channel. Stabilization alternatives include placement of riprap, recontouring and revegetating slopes, and construction of a retention basin. FY 91 funding request is for $100,000.

(F) Repowering of Pump Stations 6 and 9. This project, located in Palm Beach (#6) and Broward (#9) Counties, seeks funding for replacement of engines and pumps which are over thirty years old. This request involves no change in project operation. FY 91 funding request is for $4,500,000.

(G) Shark River Slough Restoration (East Everglades National Park). This project, located in Dade County, proposes to establish a more natural flow to Everglades National Park and Northeast Shark River Slough, improve recharge to public wellfields, and provide flood protection to developed land. Alternatives include levee alteration and removal. FY 91 funding request is for $100,000.

(H) Kissimmee River Restoration This project, located in Highlands, Okeechobee, Osceola and Polk Counties, covers construction of Phase II of the Kissimmee River Restoration. Phase II involves restoration of 15.3 miles of the river (about 1/6 of its original length, to its former meandering path. Phase I successfully demonstrated the feasibility of river restoration through placement of weirs, berms and culverts. Similar actions are proposed for Phase II. FY 91 funding request is for $6,000,000.

(I) C-51 East Project. This project, located in Palm Beach County, proposes to enlarge the C-51 channel from Kirk Road to the Florida Turnpike allowing the system to function at the design levels. FY 91 funding request is for $1,200,000.

(J) C-51 West Project. This project, located in Palm Beach County, proposes a new flood control pump station (S-319) at the west end of C-51 and enlargement of the western part of the C-51 canal. Under the proposed project, floodwaters in the west basin will be pumped from the C-51 canal into a 2.5 square mile detention basin. FY 91 funding request is for $5,500,000.

(K) Lake Istokpoga Flood Improvements. This project, located in Highlands County, seeks construction funding to correct design deficiencies in water control structures S-68, S-82 and S-83 located south of Lake Istokpoga. Existing design is causing severe downstream erosion and contributing to increased flooding problems. The project involves construction of fixed crest weirs immediately downstream of S-68, S-82 and S-83. FY 91 funding request is for $300,000.

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(L) S-66/Lake Istokpoga Levee Improvements. This project, located in Highlands County, seeks funding to determine the feasibility of increasing lake levels. Higher water levels would correct chronic water storage deficiencies, improve navigation and reduce the aquatic weed problem. The proposal involves construction of the L-46 levee along the east and south shore and replacement of the G-85 water control structure on the Istokpoga Canal. FY 91 funding request is for $500,000.

Proposed Benefits

In the first half of this century, heavy seasonal rains in combination with the passage of hurricanes caused extensive severe flooding in this region of Florida. The C&SFFCP and its local sponsor, the SFWMD, are the result of Federal and State responses to flooding which occurred in 1947. South Florida also experiences periodic severe droughts. In 1968 the project was expanded to include provisions for storage and conservation of water and improved distribution of water throughout the project area. In recent years greater emphasis is being given to the maintenance and enhancement of water quality. Of particular concern has been the rapid decline in water quality of Lake Okeechobee due to excessive phosphorous loading. Two proposals are incorporated into this year's request to address this problem.

Notice of Revision

The Kissimmee River Restoration Project description, located on page 5 of the program book, should be revised as follows:

This project, located in Highlands, Okeechobee, Osceola, and Polk Counties, covers construction of Part I: Kissimmee River Restoration of the Level II Backfilling Plan. Part I involves backfilling three to five miles of the canal in the central reach of the river. This will be the first step towards backfilling a continuous 25 to 30 mile section of the canal and will restore approximately 8500 acres of floodplain wetlands. Part I will be monitored and evaluated before subsequent work is scheduled. FY 91 funding request is for $6,000,000.

Four River Basins

Sponsor: Southwest Florida Water Management District
County: Hillsborough

Type Application: Construction

Benefit/Cost Ratio: 2.7:1

Estimated Federal Cost	160,000,000
Estimated Non Federal Cost	135,800,000
Federal Funds Through FY 90	71,289,000
Non Federal Funds Through FY 90	50,485,000
State of Florida Request for FY 91	300,000

History/Description

The Four River Basins Project has been under construction since 1966 to provide flood protection for an area of approximately 6,000 square miles in 14 counties of central and southwest Florida. It includes part of the drainage basins of four streams (the Hillsborough, Oklawaha, Withlacoochee, and Peace Rivers) and three smaller west coast watersheds (Pithlachascotee River, Anclote River, and Lake Tarpon). The authorized plan includes numerous works in several parts of the project area. Some major components of the project have already been completed, including the Tampa Bypass Canal, the Lake Tarpon Outfall Canal, the Masaryktown Canal, and the Tsala Apopka Outfall Canal, along with related water control structures, railroad bridges, and highway bridges.

The FY 91 request is for work on the Lower Hillsborough Wilderness Park at the Flatwoods Park Site. Phase I construction is expected to commence in FY 90. The county and maybe the City of Tampa will furnish the local cost-share.

Proposed Benefits

This facility is located close to the Tampa metropolitan area and is a regional recreational resource. The further recreational development of the Lower Hillsborough Wilderness Park will allow greater use of the major land resources acquired as part of the Four River Basins Project.

Lake Apopka Basin Water Management Review

Sponsor: St. Johns River Water Management District Type Application: Study
County: Orange, Lake Benefit/Cost Ratio: N/A

Estimated Federal Cost	100,000
Estimated Non Federal Cost	300,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	100,000

History/Description

Sponsored by the St. Johns River Water Management District, the proposed study is intended to develop and implement a water management plan for the Lake Apopka Basin. A similar flood protection project for Lake Apopka was originally authorized in the 1962 Four River Basins Project. Due to the date of the original General Design Memorandum (GDM), reactivation of the flood protection would require reappraisal at the GDM level. The Corps was requested to review the feasibility of flood protection and prepare an addendum to the GDM. The preliminary Feasibility Report is currently being prepared. Using available water resource and environmental data, new and existing alternatives would be evaluated. The original GDM proposed a levee (L-211) at the north end of Lake Apopka as a possible means of alleviating flooding and water quality problems.

Proposed Benefits

The study will address potential flooding problems in the Lake Apopka basin. Emphasis will be placed on alternatives that will enhance water quality while providing adequate flood protection.

Oklawaha River Basin/L-212

Sponsor: St.Johns River Water Management District Type Application: Study
County: Marion Benefit/Cost Ratio: N/A

Estimated Federal Cost	200,000
Estimated Non Federal Cost	300,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	100,000

History/Description

This study was authorized by the Four River Basins Project authorization. It is needed to address flooding and navigation problems caused by the incomplete Cross Florida Barge Canal.

After completion of the Four River Basins project, the flood flows from Moss Bluff Lock and Dam were increased significantly. These flood flows are discharged into

L-212 which was designed to discharge directly into the Cross Florida Barge Canal (CFBC). The CFBC was designed to accommodate the flow; however, construction of the CFBC was halted before it reached this area. This has resulted in a flooding problem near State Road 40 and the Silver River, and in sediment deposition that impedes navigation. This study will identify alternative solutions to alleviate the flooding and sedimentation.

Proposed Benefits

This study is needed to develop alternatives for solving current flooding and navigation problems. The best alternative will be chosen and adopted in a comprehensive surface water management plan that will also improve the water quality and environment of the river basin.

St. Johns River Basin Water Quality Management

Sponsor: St. Johns River Water Management District Type Application: Study
County: Parts of 12 counties Benefit Cost Ratio: N/A

Estimated Federal Cost	1,300,000
Estimated Non Federal Cost	0
Federal Funds Through FY 90	200,000
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	400,000

History/Description

The study was authorized by language in the FY 84 Public Works appropriations bill, directing the Army Corps of Engineers to prepare "an interim water quality management plan for the St. Johns River Basin, Florida...at full federal expense and in cooperation with local interests." Continuation of this study is proposed by the St. Johns River Water Management District. An amount of $400,000 is requested for FY 91.

The study will provide a plan for the improvement of water quality in the St. Johns River. Available water quality data is currently being collected and reviewed. Land use mapping will be one component of this effort. The need for changes or enlargements in the current monitoring program is being assessed. Eventually, the study will establish water quality goals for the basin, determine whether they are fulfilled in the various lake and stream segments, and recommend means of attaining these goals wherever possible. The Corps is working cooperatively with the St. Johns River Water Management District on this study.

Proposed Benefits

The St. Johns River has exhibited many water quality problems, as demonstrated by numerous fish kills, algae blooms, and citizen complaints. This study, along with information obtained from an ongoing multi-agency study of diseased fish in the lower reaches of the river, will develop an overall plan to address these problems. The result will provide important benefits to regional economics, aesthetics, and recreation. Fishery resources available for both commercial and sport uses should be enhanced by improved water quality management. Another benefit could be reduced expenditures for control of aquatic weeds.

Upper St. Johns River Basin

Sponsor: St. Johns River Water Management District Type Application: Construction
County: Multi-County

Estimated Federal Cost	
Estimated Non Federal Cost	
Federal Funds Through FY 90	
Non Federal Funds Through FY 90	
State of Florida Request for FY 91	$9,800,000 *

History/Description

This project is sponsored by the St. Johns River Water Management District. However, it was previously authorized as part of the Central and South Florida Flood Control Project. The $9,800,000 funding request is included in the request for the Central and South Florida Flood Control Project.

The project area of the Upper St. Johns River Basin in east-central Florida encompasses about 2,000 square miles and consists of some 60 individual contributing subbasins. The St. Johns River Water Management District (SJRWMD), in cooperation with the Army Corps of Engineers, has completed the revised General Design Memorandum for the Upper St. Johns Project.

This project is designed to restore the original hydrologic cycle to the Upper St. Johns Basin. The historical hydrologic cycle has been altered by drainage for agricultural uses. This drainage and altered land use destroyed vast marshlands, and has caused higher flood levels during periods of high rainfall and severe droughts during periods of low rainfall. It also has adversely affected the fresh water inflow and quality of discharge to the saline Indian River. The project is expected to moderate these adverse conditions by constructing retention areas, altering existing manmade drainage systems, and creating and preserving floodplain marshlands. The retention areas and floodplains should decrease the flood damage, improve water quality (by entraping sediments and nutrients), and help maintain water levels during drought periods. The reduction in low water levels will also alleviate water shortages now experienced by local governments and agricultural industry that depend on the Upper St. Johns River for a water source.

The GDM has been approved by concerned agencies and construction is underway.

Proposed Benefits

This project could begin reversing decades of environmental damage in the Upper St. Johns River Basin. The multifaceted nature of the project is especially promising. The project offers flood control, water supply, reestablishment of minimum flows, and marsh restoration with associated water quality benefits.

*This cost figure is included in the funding request for the Central and Southern Florida Flood Control Project.

NAVIGATION

Bakers Haulover Inlet Sand Bypassing Plant Study

Sponsor: Dade County	Type Application: Study
County: Dade	Benefit/Cost Ratio: N/A

Estimated Federal Cost	To be determined
Estimated Non Federal Cost	To be determined
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	$100,000

History/Description

Bakers Haulover Inlet was constructed in 1925 by dredging a cut in the natural barrier island system. Jetties flank the inlet on the seaward side with sheet pile and concrete embankments lining the inlet proper. Primarily because of these structural modifications and the presence of extremely high current velocities during the ebb and flood tides, the inlet acts as a significant barrier to transport of sand to downdrift beaches. The proposed feasibility study would evaluate several available sand bypassing options versus the current method of periodic maintenance dredging with regards to cost effectiveness and environmental considerations.

Proposed Benefits

A sand transfer plant would restore, at least to some extent, the natural sand flow which has been interrupted by the inlet and jetty. It would provide a continuous sand source for downdrift beaches and significantly reduce shoaling of the inlet and adjacent Intercoastal Waterway, possibly at less cost than periodic renourishment and dredging.

Big Sarasota Pass

Sponsor: Sarasota County	Type Application: PE&D
County: Sarasota	Benefit/Cost Ratio: 3.1:1

Estimated Federal Cost	$ 239,000
Estimated Non Federal Cost	236,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	200,000

History/Description

This project is the result of a study initiated in 1978, originally designed to determine the feasibility of incorporating six passes along the central Gulf Coast of Florida into the existing Intracoastal Waterway. These passes are Stump Pass, Longboat Pass, Big Sarasota Pass, Dunedin Pass, Hurricane Pass, and Midnight Pass. The feasibility study determined the practicality of maintaining these passes at nine feet mean low water to allow small pleasure and commercial boats improved access to the Gulf of Mexico. Dredging these passes might also provide a source of suitable material for renourishment of eroded beaches in the area. The draft feasibility report circulated in late 1984 eliminated all but Big Sarasota Pass in northern Sarasota County and Stump Pass in Charlotte County from additional study. Congressional authorization is necessary, unless the Corps changes its position, under the Continuing Authority Program, that establishes a low priority on "recreation" projects.

The recommended plan for Big Sarasota Pass calls for a 2400 foot long by 200-foot wide channel with a 10-foot depth and 2-foot overdepth. Dredging would be through the outer shoal only, as natural depths along the interior channel are sufficient for navigation. 87,000 cubic yards of spoil will be distributed along a highly eroded section of beach south of the Pass. Future maintenance disposal of sand may be deposited along the gulfward side of an existing shoal.

Proposed Benefits

The proposed project will provide a safe, navigable channel through Big Sarasota Pass for use by recreational and commercial boaters. Highly eroded beaches south of the channel will be renourished which will also enhance downdrift transport of sand. This will decrease the frequency of beach renourishment projects for this area. A dependable pass along with enhanced beaches would contribute significantly to the economic development of Sarasota and Charlotte Counties.

Fort Pierce Harbor

Sponsor: Ft. Pierce Port & Airport Authority
County: St. Lucie

Type Application: Construction
Benefit/Cost Ratio: 1.8:1

Estimated Federal Cost	4,310,000
Estimated Non Federal Cost	2,418,000
Federal Funds Through FY 90	629,000
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	4,310,000

History/Description

The Corps of Engineers has completed a study of the feasibility of deepening the Fort Pierce access channel and harbor area. The existing channel is 3.5 miles long and 25 feet deep, extending from the Atlantic Ocean through Fort Pierce Inlet and ending at a turning basin in front of the city docks. The main commodities shipped through Ft. Pierce are citrus products (exported), and aragonite (imported).

The Corps had originally recommended a channel 36 feet deep and 500 feet wide, extending from the open ocean to within the existing jetties, then becoming 32 feet deep and 300 feet wide to the existing turning basin. The plan has since been modified to a substantially smaller project. The turning basin will be 1100 feet square and 28 feet deep. The channel from the turning basin to the inlet mouth will be 250 feet wide and 28 feet deep. The offshore channel will be 400 feet wide and 30 feet deep. Also included is construction of a new channel 25 feet deep by 250 feet wide by 1250 feet long to the north of the turning basin. Some of the dredged material would be used to convert old borrow holes to a shallow water habitat for seagrass planting. Beach quality material will be placed on the beach south of the inlet. The project is not yet authorized for construction.

The report also addressed some environmental issues that had been identified by State and Federal agencies when the feasibility study began. Of special importance were the project impacts on a sabellarid worm reef and seagrass beds.

Proposed Benefits

The proposed project would allow Fort Pierce Harbor to accommodate deeper draft ships, resulting in transportation savings to shippers. Larger ships would increase shipping which could attract new business and increase employment in the area. Unemployment in the Fort Pierce area presently exceeds the state average. The beach renourishment associated with the project would also enhance beach recreation. Environmental benefits may occur if increased tidal flushing (resulting from a deeper and wider channel) improves the area's water quality.

Miami Harbor Channel

Sponsor: Port of Miami
County: Dade

Type Application: PE&D
Benefit/Cost Ratio: 1.3:1

Estimated Federal Cost	3,100,000
Estimated Non Federal Cost	0
Federal Funds Through FY 90	1,405,000
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	1,695,000

History/Description

This project will address navigational problems associated with the present configuration of Miami Harbor. Problems include excessive side currents at the jetties, insufficient channel widths and depths, an undersized turning basin, and excessive incoming tides and currents. Due to the restricted channel width it can only be used for one-way traffic. Also there have been several groundings of large vessels in recent years. The project proposes to correct these problems by widening and deepening the channel and expanding the Dodge/Lummus Island turning basin. Depths would be increased to a maximum of 42 feet, channel widths increased to 500 feet and the turning basin expanded to a diameter of 1600 feet.

Proposed Benefits

Construction of this project will allow for safer navigation especially for larger, deeper draft vessels. It will allow deeper draft ships to load fully and therefore reduce shipping costs. The need for tug service in the channel and turning basin will also be reduced.

Miami River Cleanup

Sponsor: Dade County
County: Dade

Type Application: PE&D
Benefit/Cost Ratio:_____

Estimated Federal Cost	$ 600,000
Estimated Non Federal Cost	To be determined
Federal Funds Through FY 90	100,000
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	500,000

History/Description

This project proposes to dredge contaminated sediments from the Miami River. The project area includes the six miles of the Miami River in Dade County from its mouth to a point past 36th Street, where it joins the Miami Canal, as well as the 14 miles of the canal within Dade County. An April 1, 1986, Draft Feasibility Report investigated the feasibility of dredging the Miami River to improve water quality. The Corps recommended no federal participation due to a lack of National Economic Development benefits. In December 1989, the Corps completed another Draft Feasibility Report which recommended no federal participation except for maintenance dredging of the navigation channel. Maintenance dredging of the channel will remove much of the polluted sediments. However, those areas of the river outside of the channel would remain polluted. Funds are still needed to clean up those areas. Outstanding environmental issues are disposal options and dredging methods.

The river is a Federal navigation project with authorized channel depths of fifteen feet. Development over many years has caused serious water quality problems in the river, and removal of the contaminated sediments would reduce those problems. Studies already completed by both DER and the Corps confirm that the sediments are heavily polluted. The Miami River Coordinating Committee devised means of improving all aspects of this major urban waterway. Water quality improvement is an objective of the committee and they have recommended removal of the sediments.

The Water Resources Development Act of 1986 authorized the Corps to remove the polluted bottom sediments in the river and Seybold Canal. It also authorized a $50,000 grant to establish a Miami River Management Commission. Both activities are supported by the state.

Proposed Benefits

The Miami River is an underused urban resource. The Miami River Coordinating Committee and Dade County are striving to improve the river's value for navigation, recreation, tourism, and as an aesthetic amenity. The polluted sediments in the navigation channel are degrading water quality and preventing full use of a major urban river. The polluted sediments are also causing degradation of Biscayne Bay.

Panama City Harbor

Sponsor: Panama City Port Authority
County: Bay
Type Application: Study
Benefit/Cost Ratio: N/A

Estimated Federal Cost	300,000
Estimated Non Federal Cost	100,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	200,000

History/Description

This study involves the review and reevaluation of a 1976 Feasibility Report which concluded that vessel activity in the port was not adequate to justify funding for deepening the entrance channel and the turning basins. This study will determine if an increase in vessel traffic and deletion of the turning basin deepening plan will result in a favorable benefit/cost ratio.

The number of vessels handled by the Panama City Port has increased more than 100% since the 1976 study. The vessel size using the port has also greatly increased. Existing channel depths within the harbor and the dockside facilities are adequate to accommodate deeper draft vessels. However, the shallow entrance channel limits access for larger vessels. The deepening of the entrance channel will remove this limitation.

Proposed Benefits

The increased depth will allow the deeper draft vessels to use the port's facilities. This should increase the port's revenue and allow it to continue to grow and support economic development in the Panama City area. An additional benefit may be realized through use of beach quality spoil to renourish the beaches of St. Andrews State Recreation Area.

Port Canaveral Harbor

Sponsor: Canaveral Port Authority
County: Brevard

Type Application: PE&D
Benefit/Cost Ratio:-----

Estimated Federal Cost	$ 700,000
Estimated Non Federal Cost	0
Federal Funds Through FY 90	300,000
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	400,000

History/Description

Funds are being requested to develop plans and specifications for widening and deepening the Canaveral Harbor channel and deepening of the west turning basin. A possible expansion of federal maintenance dredging will also be evaluated.

FY 87 funds were appropriated for a reconnaissance study. This study demonstrated the need for a project and FY 89 funds were appropriated for a Feasibility Study. It will be completed in FY 90 and is expected to show a favorable benefit cost ratio.

Proposed Benefits

Channel and turning basin improvements will allow more economical shipping through accommodation of larger, deeper draft vessels. The port presently ships approximately 2.5 million tons annually and could potentially increase tonnage with an improved harbor. Cruise ship and ship repair operations would also benefit. Harbor safety would be improved by elimination of a bottleneck created by a 300-foot wide channel connecting the Trident basin to the middle turning basin. All other channels are 400 feet. Federal assumption of maintenance dredging would eliminate the inefficiencies associated with the current system in which the Port, the Corps of Engineers and the Navy all negotiate dredging contracts independently.

Port Canaveral Sand Transfer

Sponsor: Canaveral Port Authority
County: Brevard

Type Application: Construction
Benefit/Cost Ratio: 2.5:1

Estimated Federal Cost	5,400,000
Estimated Non Federal Cost	100,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	5,400,000

History/Description

A sand transfer plant was authorized by the U. S. Congress in 1962 for mitigation as part of the Canaveral Port project, but was never constructed.

The revised General Design Memorandum is currently being reviewed by the Corps of Engineers South Atlantic Division. Preparation of contract plans and specifications, permitting and right-of-way acquisition is scheduled for completion in FY 90, thus setting the stage for construction in FY 91.

The project consists of installing four jet pumps on the north side of the north Canaveral jetty that will pump approximately 106,000 cubic yards per year through a subaqueous pipeline to the south side of the south jetty. In addition, the Corps plans to put 470,000 cubic yards of sand on the south side of the south jetty, every five years. The project also includes extension of the south jetty another 500 feet. By preparing and paving the top of the south jetty, a fishing pier that rivals the one at Sebastian Inlet will be created as an added recreational benefit to the project.

Proposed Benefits

In 1961, the U. S. Army Corps of Engineers estimated the littoral transport rate at Canaveral Harbor entrance at approximately 350,000 cu. yds per year to the south. A recent estimate done with greater precision using recent field data and the latest in computer programming, lowers this amount to approximately 200,000 cu. yds a year to the south. Thus, the beaches south of the jetty are deprived of nourishment because the channel acts as a sink for both sand and silt. Since it is impossible to separate the two, the Corps of Engineers, in its normal channel dredging maintenance, takes a mixture of both silt and sand out to sea. The sand transfer facility, complemented with an additional surcharge of sand every five years, will minimize the effect of the channel on the neighboring southern beaches. The extension of the south jetty will minimize capture of sand by the channel during periods when the littoral drift is to the north.

The benefits derived from this project are that it will restore the natural sand flow and thus nourish the beaches to the south of the port entrance, reduce the sand trapped in the channel, as well as reducing the costs of channel maintenance.

Port Everglades

Sponsor: Port Everglades Authority
County: Broward

Type Application: PE&D
Benefit/Cost Ratio:

Estimated Federal Cost	500,000
Estimated Non Federal Cost	0
Federal Funds Through FY 90	50,000
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	250,000

History/Description

Port Everglades is the second largest cruise ship port in the world. It serves import and export markets. It includes a foreign trade zone, a major container trade, general cargo, and petroleum imports. The port master plan predicts major expansion. The increased activity will require improvements to landside and channel facilities. FY 91 funds would be used to develop preliminary engineering and design specifications for the construction of channel improvements and additional berthing facilities to accommodate a proposed increase in cruise ship activity.

Proposed Benefits

The enhancement of Port Everglades would benefit its market area, which includes most of South Florida. A recent economic impact study estimates the port's annual economic impact on Broward County to be $2.5 billion. By the Year 2000, the economic impact will increase to 3.8 billion. The total number of direct jobs generated by Port Everglades is 20,000 and indirect jobs is 60,000. Improvements of Port Everglades can substantially contribute to the well-being of the regional economy.

Port Manatee Project

Sponsor: Manatee County Port Authority
County: Manatee

Type Application: Construction
Benefit/Cost Ratio: 9.3:1

Estimated Federal Cost	9,750,000
Estimated Non Federal Cost	12,580,000
Federal Funds Through FY 90	1,088,000
Non Federal Funds Through FY 90	12,580,000
State of Florida Request for FY 91	8,662,000

History/Description

The Port Manatee Project is a proposal for federal assumption of maintenance dredging of the existing navigation channel constructed by the Manatee County Port Authority. The authorized project involves removal of materials deposited in the channel since its construction and new construction at the ends of the channel to improve navigational safety. The channel dimensions would be 400 feet wide by 40 feet deep at mean low water (the same as originally constructed by the Port Authority) plus two feet allowable overdredging. Total channel length would be 2.65 miles, extending from the port facilities to the main Tampa Harbor Channel. The selected "Environmental Quality" plan of spoil disposal includes 100% upland disposal.

The Feasibility Report includes mitigation for the environmental damage done by the dredging. Ten acres of an existing above-water spoil island would be lowered to 2 feet mean low water to compensate for the destruction of 6.6 acres of vegetated shallow bay bottom caused by the enlargement of the turning basin. Vegetation planting is not planned, as the Corps of Engineers believes that the lowered area will revegetate itself naturally. A detailed, site specific mitigation plan will be developed by the Corps and local sponsor before construction.

Proposed Benefits

The Port of Manatee currently serves the local area for both oil imports and phosphate exports. The Feasibility Report and the Environmental Impact Statement were published in 1979 and supported the project. Construction of the project was authorized under the Water Resources Development Act of 1986.

Port of St. Petersburg

Sponsor: City of St. Petersburg
County: Pinellas

Type Application: Study
Benefit/Cost Ratio: N/A

Estimated Federal Cost	140,000
Estimated Non Federal Cost	140,000
Federal Funds Through FY 90	75,000
Non Federal Funds Through FY 90	37,500
State of Florida Request for FY 91	65,000

History/Description

The City of St. Petersburg submitted a request in FY 88 for funds to dredge the Port channel and basin. Although the current depth of 22 feet is sufficient for most of the current ship traffic through the harbor, the Port seeks to continue the development of substantial cruise ship activity in St. Petersburg. This activity has a controlling depth need of 24-27 feet.

The Corps conducted a benefit/cost analysis of a 24-foot depth in 1981 and found that such a project, without cruise ship activity, could not be economically justified. However, in January 1985, the Port began sustained cruise ship operations by hosting Commodore Cruise Lines' 480 ft. vessel, M S. Boheme. Although sale of this vessel in December 1986 ended Commodore's use of the Port, start-up of very successful Sea Escape cruise operations in December 1987 has once again established St. Petersburg as an operational cruise ship port. An environmental and economic Reconnaissance Study completed in early 1987 is currently under review. FY 91 funds will be used to restudy other potential markets, to validate the commercial benefits of expanded cruise port operations and to fund a Corps-sponsored feasibility study.

Proposed Benefits

The City's Comprehensive Plan and Port Master Plan are currently being updated and will address the increasing demand for and demonstrated success of cruise ship operations in Pinellas County. Current successful cruise operations, high passenger satisfaction, ease of public access to Port facilities, proximity to international airports by an interstate highway system, controlled ambience of the Port environment, and co-location of a full service general aviation airport markedly identifies the unique competitiveness of St. Petersburg in the cruise ship market. Both plans look to an expansion of cargo handling as a secondary port activity.

The City contends that existing tidal and wind conditions, as well as cruise ship operating experience, indicate that design considerations at times present inadequate navigational safety margins. Dredging would provide navigational safety improvement.

Port of Tampa
(Port Sutton)

Sponsor: Tampa Port Authority
County: Hillsborough

Type Application: Construction
Benefit/Cost Ratio: 3.6:1

Estimated Federal Cost	1,155,000
Estimated Non Federal Cost	390,000
Federal Funds Through FY 90	250,000
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	1,510,000

History/Description

The proposed construction would increase the depth of the existing 3,700-foot long by 200-foot wide Port Sutton Terminal channel from 34 feet to 43 feet below mean low water. Phosphate is the primary commodity moving through the terminal. This and other bulk commodities being shipped require deep-draft bulk carriers that draw in excess of 34 feet of water when fully loaded.

The $250,000 shown above as Federal Funds through FY 90 were appropriated outside of the Public Works Program and are not included as a portion of the current $1,510,000 request.

Proposed Benefits

The completion of this dredging project will allow fully loaded deep-draft vessels to navigate this channel. This will allow more cost-effective shipping which will help to improve the competitive advantage of phosphate in the world markets.

Stump Pass

Sponsor: Charlotte County
County: Charlotte

Type Application: P E & D
Benefit/Cost Ratio: 1.3:1

Estimated Federal Cost	375,000
Estimated Non Federal Cost	326,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	375,000

History/Description

The Gulf Coast Passes Study was initiated in 1978 and originally included a total of six passes. All but two of these passes, Stump Pass and Big Sarasota Pass, were subsequently eliminated from further consideration. The Stump Pass project is requested by Charlotte County. The project would involve dredging a 200-foot wide exterior channel to a depth of 8 feet below mean low water with a 2-foot overdepth and an 80-foot wide by 6-foot deep interior channel with a 2-foot overdepth. Renourishment of a nearby beach by spoil disposal has been suggested as an additional benefit. The proposed project has received a DER permit. Congressional authorization is necessary, unless the project is completed under the Corps' Continuing Authority Program.

Proposed Benefits

In its Detailed Project Report, the Corps noted that the lack of adequate channel depths in Stump Pass has caused several problems:

1. Most area boaters are forced to use an alternate pass, thus causing inconvenience and increased travel costs.
2. Inlet shoaling frequently restricts passage of Coast Guard Auxiliary vessels on emergency missions.
3. The condition of Stump Pass makes it unsuitable as a harbor of refuge.

Potential benefits include the establishment of a reliable pass in the area, greater tidal flushing of bay waters, increased boat usage, and beach renourishment.

SHORE PROTECTION

Broward County
(Hollywood/Hallandale)

Sponsor: Broward County Erosion Prevention District
County: Broward

Type Application: Construction
Benefit/Cost Ratio: 3.9:1

Estimated Federal Cost	$7,350,000
Estimated Non Federal Cost	7,350,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	7,350,000

History/Description

This is a new project which involves the restoration of 5.2 miles of beach in the municipalities of Hollywood and Hallandale in southern Broward County. Approximately one million cubic yards of material would be used to extend the beach seaward by 50 to 150 feet. Alternatives to offshore borrow sites are being studied to limit affects on offshore reefs.

Construction is scheduled from May to October in 1990. The FY 91 request is for reimbursement of the Federal portion of funds expended by the sponsor for project construction, engineering, and monitoring. The Corps has stated that reimbursement funds should be requested in FY 91.

The sponsor received authorization from the U. S. Army Corps of Engineers in 1965 to design and construct beach erosion control projects in the county. Four such projects have been done in the past, including the Hollywood/Hallandale portion. The current project area was initially restored in 1979 with two million cubic yards of material obtained from offshore borrow areas. The authorization also provided for federal financial participation in maintenance nourishment of the original project for 10 years after initial construction.

The project area includes a Broward County Park, city-administered public beach, condominiums and hotels, and retail shops. It is one of the most intensively used shorefronts in the State, especially during the winter season.

Proposed Benefits
The project was designed for a 10-year renourishment to protect the upland structures from a 20-year storm. Maintenance is required to return the project to its original design specifications, to restore adequate recreational beach and to provide protection from storm-induced damage to upland structures.

Coast of Florida Erosion and Storm Effects

Sponsor: Florida Department of Natural Resources
County: Statewide

Type Application: Study
Benefit/Cost Ratio: N/A

Estimated Federal Cost	$7,750,000
Estimated Non Federal Cost	7,500,000
Federal Funds Through FY 90	1,423,000
Non Federal Funds Through FY 90	455,000
State of Florida Request for FY 91	750,000

History/Description

This proposal by the Florida Department of Natural Resources is for continuation of a statewide study of the status and dynamics of the coastal processes affecting Florida's beaches. The study will provide a much improved technical basis for assessing future coastal changes (whether man-induced or natural) by systematically collecting essential data and identifying the factors that cause coastal changes. Funds are being used to establish a statewide data collection network built upon existing data bases. Funds will also be used to create a storm assessment system, and to begin an intensive data collection effort along the 97 miles of shoreline from Juno Beach to Florida City (along Florida's southeast coast). Congress appropriated $250,000 in FY 85 to initiate this study. An additional $500,000 was appropriated in FY 86, $750,000 in FY 87, and $750,000 for FY 88.

Proposed Benefits

The coast of Florida, which includes 800 miles of high-quality sand beaches, is an extremely valuable state natural resource. This study will provide vital information for coastal resource management. Benefits will include: 1) a better scientific basis for decisions on coastal development, 2) improved effectiveness and reduced costs of future coastal works, 3) an improved basis for preventing storm damages, 4) an improved basis for regulatory decisions, such as the coastal construction control line, and 5) a better understanding of the long-term effects of rising sea level.

The damage done to much of Florida's central and northern Gulf Coast by hurricanes in 1985 demonstrates the need for this study.

Dade County Beach Erosion Control

Sponsor: Metropolitan Dade County	Type Application: Construction
County: Dade	Benefit/Cost Ratio: 6.5:1.0

Estimated Federal Cost	50,900,000
Estimated Non Federal Cost	43,739,000
Federal Funds Through FY 90	38,854,000
Non Federal Funds Through FY 90	31,563,000
State of Florida Request for FY 91	2,400,000

History/Description

This request is to renourish previously restored portions of a 10.5-mile project. The request is based on predicted erosion rates and on the amount of material required to maintain full storm protection and recreational benefits. The exact limits of renourishment area are not known at this time. The intent is to renourish segments of the 10.5-mile project which have shown accelerated erosion. The FY 91 funding request is based on estimated nourishment needs through FY 91.

Proposed Benefits

The restored beach will maintain protection of upland property and provide improved recreational beaches.

Delray Beach

Sponsor: City of Delray Beach	Type Application: Construction
County: Palm Beach	Benefit/Cost Ratio: 3.4:1.0

Estimated Federal Cost	$3,574,458
Estimated Non Federal Cost	2,757,542
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	3,574,458

History/Description

Delray Beach was restored in 1973. Maintenance nourishment occurred during 1978 and 1984. A General Design Memorandum was prepared in 1984. A 15-month follow-up study was completed in 1986, a 27-month follow-up study was completed in 1987 and a General Design Memorandum is currently being prepared. The project is scheduled for construction in June 1990. The proposed project will replenish sand lost since the 1984 nourishment. FY 91 funds will be used to reimburse the city for design and construction expenses.

Proposed Benefits

The renourished beach will protect upland structures from erosion and will provide additional recreational areas for residents and tourists who provide a major source of income for the area. A major benefit will be the protection of State Road A1A.

Duval County Beach Renourishment

Sponsor: Duval County	Type Application: Construction
County: Duval	Benefit/Cost Ratio: 3.2:1.0

Estimated Federal Cost	$2,400,000
Estimated Non Federal Cost	1,600,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	2,400,000

History/Description

Periodic renourishment of the beach is required to replace sand lost as a result of currents, winter storms and wind action. This phase of the project is expected to include the area from the vicinity of Atlantic Boulevard to the south for approximately three miles. The material will come from maintenance dredging of the St. Johns River and the Mayport Naval Basin or from an offshore borrow area.

Proposed Benefits

The renourishment will re-establish a desirable beach profile with a broad expanse of beach above high tide. This will provide increased protection for upland property and improve recreational opportunities and use.

Fort Pierce Beach

Sponsor: St. Lucie County	Type Application: Study
County: St. Lucie	Benefit/Cost Ratio: 2.5:1.0

Estimated Federal Cost	To Be Determined
Estimated Nonfederal Cost	"
Federal Funds Through FY 90	0
Nonfederal Funds Through FY 90	0
State of Florida Request FY 91	$100,000

History/Description

This proposal is to re-evaluate the feasibility of placing 350,000-450,000 cubic yards of sand on the beach beginning at the south jetty of Ft. Pierce Inlet and extending 1.3 miles to the south. The material would be taken from a borrow area 3,000 feet offshore. The beach to be nourished includes two public parks, South Shore Park (1,210 feet of beach frontage) and Surfside Park (550 feet of beach frontage). Both are fully open to public use.

The effect of sand movement in the longshore direction is most evident at Ft. Pierce Inlet, where the beach just south of the inlet has receded an average of 4.3 feet a year since 1930. During the same period the beach on the north side has advanced seaward. Previous beach nourishment projects have prevented the beach on the south side from eroding so far inward as to destroy both private and public property. However, 88% of benefits are attributable to recreation rather than property protection. This could jeopardize the planned equal division of cost between federal and nonfederal interests.

Authorization for the nourishment project has expired and must be obtained. The Corps is presently conducting a Section 111 report to study mitigation to compensate for the loss of shoreline due to the federal navigation project.

Proposed Benefits

Restoring the beach will preserve the existing recreational resource and protect capital investments. The two public beach parks in this area would continue to serve residents and visitors.

Indian River County
(Vero Beach)

Sponsor: City of Vero Beach	Type Application: Construction
County: Indian River	Benefit/Cost Ratio: 1.44:1.0

Estimated Federal Cost	4,410,000
Estimated Non Federal Cost	3,760,000
Federal Funds Through FY 90	855,000
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	3,555,000

History/Description

During the past 20 years the beach has eroded 40 to 60 feet inland. During a seven year interval the annual rate of erosion increased from 2.5 to 4.7 cubic yards per linear foot of beach, but in a 3 day offshore low pressure storm in March 1989, the dune at Humiston Park eroded at the rate of 11.6 cubic yards per linear foot. If unchecked, this erosion will ultimately eliminate the dune and cause the destruction of single and multi-family structures, 2792 feet of public parks and 1,500 feet of City streets and utilities adjacent to the beach. The 1984 Thanksgiving Day Storm was so severe that Civil Defense declared an emergency evacuation when some of the older seawalls were destroyed and structures started falling into the ocean. This storm caused damage to public and private property estimated at $4.6 million dollars.

As a result of the electorate of the City rejecting a referendum on participating in a 14,000 foot restoration project, the Corps of Engineers has redesigned the project. By reducing the project length to 9,600 feet, the modified project will offer 10 year protection for valuable upland public and private properties by restoring 95 percent of eroding public parks and access points, and 90 percent of eroding, developed private property. Equally valuable nearshore marine habitat will be protected by avoidance, or by providing mitigation for the significant marine habitat that would unavoidably be affected. The city believes that the modified project will receive the necessary support of the electorate.

Proposed Benefits

A restored beach will reduce the need for additional storm protection structures (seawalls, bulkheads), reduce maintenance or destruction of older, existing storm protection structures, increase width of recreation beach, increase tourism, and prevent complete destruction of the dune system and the resultant inundation of the entire barrier island during storm conditions. Because the present beach is too narrow to provide a safe place for turtle nesting, the City in 1989 relocated 144 nests to a turtle hatchery. The restored beach will provide more adequate nesting opportunities for these federally endangered species.

Manatee County
(Anna Maria Island)

Sponsor: Manatee County
County: Manatee

Type Application: Construction
Benefit/Cost Ratio:________

Estimated Federal Cost	21,300,000
Estimated Non Federal Cost	16,300,000
Federal Funds Through FY 90	5,115,000
Non Federal Funds Through FY 90	5,350,000
State of Florida Request for FY 91	2,320,000

History/Description

The central and southern portions of Anna Maria Island are experiencing erosion. Local interests have constructed numerous seawalls, bulkheads, and other measures to prevent further shoreline recession. However, the uncoordinated application of protective structures has often accelerated loss of sand. The proposed project is 4.2 miles in length, and extends from Holmes Beach south to Longboat Pass. It includes groin reconstruction at Cortez Beach. This project has recently been increased from 3.9 to 4.2 miles. A revised General Design Memorandum and a supplement to the Environmental Impact Statement which address the increased project length will be finalized soon.

There have been problems in the past securing local matching money. However, after two damaging hurricanes in 1985, there is now renewed commitment from the project sponsor and beneficiaries.

Proposed Benefits

The improved beach would protect upland property and provide a recreational beach.

Martin County
(Four Mile Beach)

Sponsor: Martin County
County: Martin

Type Application: PE&D
Benefit/Cost Ratio: 1.7:1.0

Estimated Federal Cost	$3,466,000
Estimated Non Federal Cost	4,988,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	546,045

History/Description

The plan provides for restoring a protective beach along 4 miles of the northern shorefront of Hutchinson Island. The initial beach fill would restore the primary dune to a 20-foot wide crest, provide a 35-foot wide berm and a gentle slope to the existing bottom. It is anticipated that periodic renourishment will be required at 8-year intervals to replace erosion losses. This section of beach is a major sea turtle nesting area. It is estimated that approximately 1000 nests are made each year. Turtle protection during construction will be a major consideration. Dredging during winter months will be required to avoid impacts to turtle nesting. This project still requires Congressional authorization.

Proposed Benefits

The restored beach and dune area will protect the upland property from wave damage, will provide a sand beach for recreational purposes and will improve nesting opportunities for the federally endangered sea turtles.

Miami Beaches
(Dinner Key)

Sponsor: City of Miami
County: Dade

Type Application: Construction
Benefit/Cost Ratio:________

Estimated Federal Cost	$ 90,000
Estimated Non Federal Cost	108,500
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	90,000

History/Description

The Dinner Key Beach project is located on the coast of the City of Miami. The project consists of restoration of a beach and shoreline, construction of a wooden landing pier, and construction of a protective barrier. The pier will provide access to a spoil island on the north side of Dinner Key Basin. The island contains a sandy beach which will be expanded. An adjacent swimming area will be protected from boating activity by construction of a piling barrier.

Proposed Benefits

The project will help to satisfy the area's increasing demand for swimming, fishing and boating activities.

Miami Beaches
(Virginia Key)

Sponsor: City of Miami
County: Dade

Type Application: Study
Benefit/Cost Ratio: N/A

Estimated Federal Cost	To Be Determined
Estimated Non Federal Cost	To Be Determined
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	50,000

History/Description

This study proposes to develop methods for protection and enhancement of approximately 1.3 miles of Virginia Key Park Barrier Island shoreline. Proposed improvements will include placement of riprap, reconstruction of existing groin fields, renourishment of existing beach and relocation of a swimming area away from its present location in a hazardous high current, sharp drop off site.

Proposed Benefits

If this project is constructed it would preserve Virginia Key as a coastal barrier, enhance the recreational benefits of Virginia Key Park, reduce danger to swimmers, and reduce erosion, turbidity and sedimentation.

Miami Beaches
(Waterfront Parks)

Sponsor: City of Miami
County: Dade

Type Application: Study
Benefit/Cost Ratio: N/A

Estimated Federal Cost	$1,325,000
Estimated Non Federal Cost	750,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	1,325,000

History/Description

This proposal will study the feasibility of construction of concrete bulkheads and limestone riprap along the shorelines of five City Parks: Legion, Morningside, Pace, Brickell and Peacock. The shorelines were stabilized many years ago with concrete rubble. This rubble has proven to be unstable and has allowed considerable erosion of the beach. Also, garbage accumulates within the randomly positioned rubble, creating a hazardous condition for persons attempting to walk on or swim adjacent to the rubble.

Proposed Benefits

The placement of riprap or concrete bulkheads will reduce erosion and resultant turbidity, improve the available habitat for marine species and remove hazards for people using the parks.

Miami Beaches
(Watson Island Park)

Sponsor: City of Miami
County: Dade

Type Application: Study
Benefit/Cost Ratio: N/A

Estimated Federal Cost	To be Determined
Estimated Non Federal Cost	*
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	50,000

History/Description

Watson Island is a spoil island located off the coast of Miami. The Study will determine the feasibility of removing the existing unconsolidated rubble and debris, regrading the site, placing small amounts of fill to level the shoreline, and installing approximately 1,300 linear feet of riprap to stabilize the shoreline along the badly eroded northern shore of Watson Island Park. This publicly-owned park is adjacent to the Intracoastal Waterway which generates significant boat traffic. Wakes from boats, as well as natural forces, are causing serious erosion and sedimentation problems.

Proposed Benefits

The park is extensively used by area residents and visitors. The shoreline protection will preserve a valuable tourist asset since it is located directly across from the Port of Miami, which is the largest passenger port in the nation.

Monroe County
(Smathers Beach)

Sponsor: Monroe County	Type Application: Construction
County: Monroe	Benefit/Cost Ratio: 1.7:1

Estimated Federal Cost	$1,441,000
Estimated Non Federal Cost	1,441,000
Federal Funds Through FY 90	125,000
Non Federal Funds Through FY 90	
State of Florida Request for FY 91	1,316,000

History/Description

This project proposes to restore Smathers Beach on the island of Key West to the original 1960 dimensions. It would involve renourishing 3,000 feet of beach and the loss of 3.6 acres of seagrasses which the sponsor proposes to mitigate. The total program calls for periodic renourishment for fifty years. This proposal has met with substantial opposition in the past from state and federal agencies and the private sector. However, the project is scaled down considerably from the 9,400 feet of beach that has been proposed in the past. Agency comments in past years have leaned toward consideration of the restoration of only Smathers Beach as proposed for FY 91. Proposed mitigation includes removal of the White Street fill pier, replacement with a piling structure and placement of rubble from the old pier into artificial reef sites.

A permit application for this project is currently under review by the Department of Environmental Regulation. Due to environmental issues yet to be resolved, a final recommendation on issuance or denial of the current application could not be made prior to preparation of this document.

Proposed Benefits

The principal benefit of this project would be the provision of an improved recreational beach which would benefit the local tourist economy. Some storm protection benefits may also result.

Palm Beach County
(Coral Cove)

Sponsor: Palm Beach County	Type Application: Construction
County: Palm Beach	Benefit/Cost Ratio: 3.3:1

Estimated Federal Cost	$2,235,600
Estimated Non Federal Cost	1,364,400
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	1,490,400

History/Description

The project area is one mile long, of which 3,000 feet is in a public park. The state and county recently spent $16 million to acquire the park property and park improvements are planned for construction in 1991. The dunes along this beach were restored and revegetated in early 1989 and crossovers were constructed. The beach is eroding and threatens the restored dunes. Due to the presence of nearshore and onshore rock habitat, the plan is to place sand above the mean high water line over a three-year period and let natural wave action adjust the profile.

Proposed Benefits

The project will provide storm protection for the restored dunes and the park. It will provide additional protection for upland structures and will provide increased recreational area. A larger beach may provide more favorable conditions for the large number of sea turtles that nest each year.

Palm Beach County
(Jupiter Beach/Carlin Park)

Sponsor: Palm Beach County	Type Application: Construction
County: Palm Beach	Benefit/Cost Ratio: 1.3:1

Estimated Federal Cost	$1,665,800
Estimated Non Federal Cost	974,100
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	1,665,800

History/Description

This project is a part of the overall Palm Beach County renourishment program. This section of beach has experienced critical erosion for many years. Many erosion control structures have been built. Groins were installed in the 1960s but have been ineffective. In 1981 emergency measures were required to save a portion of road and parking lot at Jupiter Beach Park. In subsequent years the road and parking lot were completely lost.

The project involves 6,400 feet of beach south of Jupiter Inlet of which 4,650 feet are included in Jupiter Beach Park and Carlin Park. Maintenance dredging of Jupiter Inlet provides some renourishment but not enough. The sand source is expected to be the ebb tidal shoal at Jupiter Inlet.

Proposed Benefits

The project will provide storm protection for upland structures, roads and two county parks. An enlarged beach will provide additional recreation opportunities and may provide improved turtle nesting areas.

Palm Beach County
(Lake Worth)

Sponsor: Palm Beach County	Type Application: Study
County: Palm Beach	Benefit/Cost Ratio: N/A

Estimated Federal Cost	$ 250,000
Estimated Non Federal Cost	250,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	250,000

History/Description

The proposed study area, known as Reach 6, is located in an area that includes four public parks and a number of commercial facilities. The proposal is to perform sand search and environmental studies to determine the feasibility of nourishing this eroded beach. The area is 2.1 miles long and would require approximately 770,000 cubic yards of material.

Proposed Benefits

Renourishment of this beach would provide protection for existing erosion control structures, public parks and commercial facilities. Also, a larger beach would enhance recreational opportunities.

Palm Beach County
(Mid-Town)

Sponsor: Town of Palm Beach	Type Application: Construction
County: Palm Beach	Benefit/Cost Ratio: 1.7:1

Estimated Federal Cost	$7,045,355
Estimated Non Federal Cost	6,027,910
Federal Funds Through FY 90	1,600,000
Non Federal Funds Through FY 90	3,563,000
State of Florida Request for FY 91	5,445,355

History/Description

The beach to be restored has a history of erosion. Seawalls and groins have been constructed by the Town of Palm Beach. However, the groins have deteriorated and are ineffective. Many seawalls have no protective beach in front of them and are threatening to collapse. Portions of Highway A1A collapsed during the Thanksgiving Day Storm of 1984.

The proposed project would renourish 2.5 miles of Mid-Town Beach. The project is consistent with the Palm Beach County General Design Memorandum (GDM) of 1987. In addition. a General and Detailed Design Memorandum for the specific project area is being prepared and will refine the project design. The GDM is under review by the Corps of Engineers. Recent geotechnical studies indicate the presence of compatible sand near the Lake Worth Inlet. Other sources were also located offshore but the Lake Worth Inlet shoal area will be the primary sand source. Approximately 1.5-2 million cubic yards of sand would be required depending on which sand source is used.

Proposed Benefits

The project will provide storm protection for upland structures and property and will increase recreational beach area. It will also provide a source of material for downdrift beaches.

Palm Beach County
(Ocean Ridge)

Sponsor: Palm Beach County	Type Application: Construction
County: Palm Beach	Benefit/Cost Ratio: 5.4:1

Estimated Federal Cost	$1,095,272
Estimated Non Federal Cost	1,224,960
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	1,095,272

History/Description

This project is a part of the overall Palm Beach County renourishment program. This beach has a history of severe erosion. Recent studies show an annual loss of approximately 37,000 cubic yards per year. Numerous erosion control structures have been built to protect upland properties. Highway A1A is constantly threatened. The South Lake Worth Inlet sand bypassing plant replaces some lost sand but renourishment is required to sustain a functional beach. Approximately 3,000 feet of beach will be renourished. The ebb tidal shoal just south of South Lake Worth Inlet is expected to be an excellent sand source. An assessment of the shoal is expected to be completed soon.

Proposed Benefits

The project will provide storm protection for upland structures, roads, and a county park. An enlarged beach will provide additional recreation opportunities and may provide improved turtle nesting areas.

Panama City Beaches

Sponsor: Bay County	Type Application: Study
County: Bay	Benefit/Cost Ratio: N/A

Estimated Federal Cost	$ 600,000
Estimated Non Federal Cost	To Be Determined
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	600,000

History/Description

A feasibility report for beach erosion control and hurricane protection for the Panama City Beaches was compiled in 1986 with a positive benefit/cost ratio. However, the Corps discontinued work on the project when Bay County withdrew as sponsor because of the eventual cost to the county. The county now has the means of funding the project through the taxing authority of the Tourist Development Council. Therefore, the county has requested the Corps to revive the study.

The Panama City Beaches have been badly eroded by hurricane and storm action. Some of the beachside structures have been undermined or destroyed. The objective is to provide a long-term restoration and maintenance program for approximately 18 miles of beach which extends from St. Andrews Bay to Phillips Inlet.

Proposed Benefits

The project will protect upland structures, evacuation routes, US Highway 98, county roads, and restore the beaches for the benefit of local citizens and tourists.

Perdido Key Beaches

Sponsor: Escambia County	Type Application: Study
County: Escambia	Benefit/Cost Ratio: N/A

Estimated Federal Cost	To Be Determined
Estimated Non Federal Cost	To Be Determined
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	$ 30,000

History/Description

The Perdido Key Beach area has been studied for the past fifteen years to determine the extent of erosion and dune movement. Information needs to be updated so a restoration plan can be developed. The U. S. Navy is considering renourishment of Perdido Key with material dredged during channel improvements for the USS Kittyhawk homeporting project. A feasibility study would provide the updated information needed to support restoration including current environmental information.

Proposed Benefits

A restored beach would provide additional public use and flood protection for roads and drainage structures.

Pinellas County
(Sand Key)

Sponsor: Pinellas County
County: Pinellas
Type Application: Construction
Benefit/Cost Ratio: ________

Estimated Federal Cost	63,600,000
Estimated Non Federal Cost	65,400,000
Federal Funds Through FY 90	14,288,000
Non Federal Funds Through FY 90	13,411,000
State of Florida Request for FY 91	2,500,000

History/Description

This project consist of renourishment of a severely eroded shoreline on the northern end of Sand Key. Approximately 6,400 feet of beach will be affected. This beach was nourished in 1982-1984 in a cooperative effort between the City of Clearwater and local property owners. Previously the project was not eligible for federal funding due to lack of beach access and parking. However, the City of Clearwater has passed a resolution agreeing to provide parking and beach access thus making the project eligible for federal funding. However, this project is not yet approved for state matching funds from the Department of Natural Resources. Approval will depend on resolution of the parking and beach access issue and the sand source issue. The sponsor is prepared to proceed with the project by pursuing other sources of matching funds.

It was originally proposed that material from Dunedin Pass be used as a sand source. The Department of Environmental Regulation recently denied a permit to dredge the pass. However, other potential sand sources are currently being investigated.

Proposed Benefits

This project will provide storm protection for upland property and provide a large recreational beach for public use.

St. Johns County
(St. Augustine Beach)

Sponsor: St. Johns County
County: St. Johns
Type Application: Construction
Benefit/Cost Ratio: 1.2:1

Estimated Federal Cost	$2,334,000
Estimated Non Federal Cost	1,492,000
Federal Funds Through FY 90	350,000
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	2,334,000

History/Description

The St. Augustine Beach area includes Anastasia State Recreation Area, a county park, motels and other commercial facilities, and private residences. The beaches in most of St. Johns County support vehicular traffic and are classified locally as a county road. This project would nourish approximately 2.3 miles of beach which has been lost due to high wave action.

Proposed Benefits

The increased beach area will provide additional recreational area, protect upland property and provide for vehicle traffic on the beach. Protection will also be provided for existing infrastructure such as roads and utilities.

Sarasota County
(Longboat Key)

Sponsor: Town of Longboat Key	Type Application: Construction
County: Sarasota	Benefit/Cost Ratio: 1.5:1

Estimated Federal Cost	2,445,000
Estimated Non Federal Cost	1,790,000
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	474,600

History/Description

The FY 91 funding request is to complete construction planning for beach restoration and nourishment on central Longboat Key in Sarasota County. Continued recession of the shoreline is creating a situation which makes coastal development more vulnerable to tropical and winter storms each year. Presently, 2890 feet of Gulf of Mexico Drive is directly endangered by storm waves.

The plan provides for the construction of a protective beach along 12,600 feet of shoreline between the Viente and Castillian condominiums, and includes a beach monitoring program. The proposed project consists of a 50-foot wide beach berm with a crest elevation of nine feet above mean sea level. Initial beach fill would be 1,165,100 cubic yards. Periodic renourishment with 98,000 cubic yards of fill would be required every eight years to replace that lost to erosion.

Proposed Benefits

Currently, a major storm could cause substantial damage to upland property and municipal infrastructure, including roads and water systems. This project would provide beach erosion control and protection against storm induced flooding, and may stabilize and reverse the continual erosion of shoreline in this area. It would also provide an improved beach for public use.

Sarasota County
(Venice/Caspersen Beach)

Sponsor: Sarasota County/City of Venice	Type Application: Construction
County: Sarasota	Benefit/Cost Ratio: 1.83:1

Estimated Federal Cost	5,500,000
Estimated Non Federal Cost	5,500,000
Federal Funds Through FY 90	2,481,000
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	4,100,000

History/Description

In 1964, Congress authorized a study of beach erosion problems in Sarasota County. At the County's request, the study was deferred in 1970, but resumed in 1978. In April of 1984, the Corps of Engineers released the project's Feasibility Report and Environmental Impact Statement. The report has a favorable benefit/cost ratio, especially for Venice/Caspersen Beach. Beach erosion problems are particularly severe in that area. Project authorization occurred in 1986.

The total project consist of nourishment of 5.6 miles of beach to be constructed in phases. FY 91 funds would be used to construct Reach A & B of Venice Beach and Brohard Beach. The Caspersen Beach portion will be requested at a later date.

Proposed Benefits

A wider beach will provide additional recreation benefits and flood damage prevention. Of critical importance is the protection of a sewage treatment plant located very near the beach. Existing seawalls would be protected and the renourished beach would act as a feeder beach for the rest of Manasota Key. It would also help to mitigate the loss of sand caused by the presence of Venice Inlet.

ENVIRONMENTAL RESTORATION AND ENHANCEMENT

Biscayne Bay Survey Review

Sponsor: Dade County	Type Application: Study
County: Dade	Benefit/Cost Ratio: N/A

Estimated Federal Cost	$1,692,000
Estimated Non Federal Cost	0
Federal Funds Through FY 90	240,000
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	700,000

History/Description

This study is a comprehensive review of environmental impacts from federally authorized and constructed projects in and adjacent to Biscayne Bay in Dade County, Florida. The Corps of Engineers, acting as the lead federal agency in cooperation with the Federal Department of Transportation, is reviewing existing projects such as the Intracoastal Waterway (ICW), Government Cut, Bakers Haulover Inlet, the Central and Southern Florida Flood Control Project, and causeway construction to determine whether these and other federally authorized projects are having a detrimental impact upon Biscayne Bay. The reconnaissance survey recommended five areas for further study:

1. Snake Creek freshwater discharge.
2. Sediment transfer through Haulover Inlet.
3. Mowry Canal freshwater discharge.
4. Miami River and canal freshwater discharge and sediment transport into the bay.
5. Spoil island and shoal impacts on turbidity.

Proposed Benefits

Biscayne Bay and the adjacent shoreline have been subjected to intense alterations from federally authorized construction projects. The cumulative impacts of these projects on Biscayne Bay are not known. However, locally funded studies have determined that water quality in the bay is poor, especially north of Rickenbacker Causeway. Excessive turbidity and reduced flushing are major problems. This study is needed to develop guidelines for future management of Biscayne Bay's natural resources. A successful study will result in an improved understanding Biscayne Bay and should indicate actions to be taken which will improve water quality and enhance recreational opportunities.

Lower Hillsborough River Water Quality Enhancement

Sponsor: City of Tampa
County: Hillsborough

Type Application: Study
Benefit/Cost Ratio: N/A

Estimated Federal Cost	$ 175,000
Estimated Non Federal Cost	0
Federal Funds Through FY 90	0
Non Federal Funds Through FY 90	0
State of Florida Request for FY 91	175,000

History/Description

The City of Tampa is proposing a study of the effects of periodic dredging on the lower Hillsborough River to enhance water quality. Bottom sediments in this river section are composed of thick organic muds with accumulations of heavy metals, petroleum hydrocarbons, and other toxic chemicals. This material has accumulated primarily due to historical wastewater treatment plant discharges and stormwater runoff. The existing poor quality of the river sediments contributes to a high sediment oxygen demand. Dissolved oxygen levels in the lower Hillsborough River violate State water quality standards up to 60% of the time. The National Urban Runoff Program, as well as a city-sponsored biological study of river sediments, indicate that periodic dredging of the lower Hillsborough River would improve water quality.

The City of Tampa has recently completed additional studies at a cost of $40,000.

Proposed Benefits

Periodic dredging of the lower Hillsborough River can be expected to significantly improve water quality. This in turn should also benefit Hillsborough Bay, which has been one of the state's most degraded estuaries. The City of Tampa has undertaken a number of actions designed to improve and protect the Hillsborough River and Tampa Bay (including Hillsborough Bay). This project will complement these initiatives. This study is similar to several other completed Corps studies of altered river systems in the state, including the Miami River and the St. Johns River.

Congressional study authorization is necessary.

U.S. COASTAL PORTS

STATEMENT OF ERIK STROMBERG, PRESIDENT, AMERICAN ASSOCIATION OF PORT AUTHORITIES

Senator **DECONCINI**. The next witness is Erik Stromberg, the president of the American Association of Port Authorities.

Mr. **STROMBERG**. Thank you, Mr. Chairman. My name is Erik Stromberg. I am president of the American Association of Port Authorities and we welcome the opportunity to testify before this subcommittee today. As you may know, AAPA represents every major public port agency in the United States as well as major port agencies in Canada, Latin America, and the Caribbean Sea countries.

On behalf of the public port industry I would like to acknowledge with great appreciation the strong support shown by this committee for our Nation's water resources programs. I appear before you today for three reasons: one, to lend our support to a healthy operation and maintenance budget for the U.S. Army Corps of Engineers navigation program; two, to urge this committee to provide the level of support necessary for the Corps' regulatory program to function effectively; and three, to encourage your support for a regular 2-year cycle of water resources authorization legislation.

O&M PROGRAM OF THE CORPS OF ENGINEERS

Regarding the Corps O&M account, it should be noted that the funding to maintain America's international trade infrastructure is an investment in the health of our economy. It yields phenomenal returns. The economic impact of our industry is well documented by the Department of Transportation, and I have included those numbers in my written statement.

Suffice it to say that investment in our Nation's deep draft navigation system always has been a good deal for the Federal Government, made even more so by the significant local share in project costs as required by the Water Resources Development Act of 1986, truly a market test for navigation projects.

In fact, since the 1986 act we have seen many long-overdue navigation projects move forward to completion or completion through some usable increment, but despite these successes, we have reason to be concerned about maintaining the system that we have built. We feel that the Corps' O&M budget is essentially a status quo budget with no room for cuts if we are to keep pace with the aging infrastructure maintenance requirements and for the dredging program, where there are fewer and more expensive dredge material disposal solutions, and simply put there can be no escaping the fact that dredging and dredge material disposal will only become more expensive in the years to come.

REGULATORY PROGRAM

Regarding the Corps' regulatory mission, there is currently a hiring freeze for Corps personnel which could impede the progress we have made in recent years in securing permit reviews in a timely and professional manner. We fear that such a hiring freeze will cost more to regulated industries in terms of delays than it is saving the Federal Government.

AUTHORIZATION LEGISLATION

Finally, Mr. Chairman, in urging this committee to support passage of the Water Resources Development Act of 1990, we recognize that this committee has no direct jurisdiction. Nevertheless, we would welcome the support this committee could provide for a regularized process whereby we achieve predictable and consistent project authorizations and funding.

In this light, the passage of the Water Resources Development Act of 1990 takes on added significance, even if it is a bill that is only modest in scope. However, we must protest the fact that there are no new starts in the Corps' bill which has been recently submitted to the Hill, even though several deep-draft channel projects have Chief's reports.

In conclusion, I would like to reemphasize that maintaining our navigation system has immediate and enormous national and regional economic impacts in addition to the vital role that it plays in our national defense. Despite the inevitability of increased costs, the system's benefits far exceed any reasonable amount invested.

Thank you very much, sir, for the opportunity to express our views today.

Senator **DeConcini**. Thank you very much, Mr. Stromberg. I wish the administration was here to listen to your plea, because I think you make some very good points about no new starts and having some consistency. The Congress, when we get little or no leadership there, sometimes will authorize some projects but it is very difficult for us to do it when you have no plan, as you point out in your statement. Your full statement will appear in the record. We thank you for your time this afternoon.

Mr. **Stromberg**. Thank you, sir.

[The statement follows:]

STATEMENT OF ERIK STROMBERG

Good afternoon. My name is Erik Stromberg. I am President of the American Association of Port Authorities. AAPA represents every major public port agency in the United States as well as the major port agencies in Canada, Latin and South America and the Caribbean Sea nations. Our members are public entities established to fulfill mandated public purposes, primarily economic development through the facilitation and promotion of waterborne commerce.

Thank you for the opportunity to testify before the Subcommittee today. On behalf of the public port industry, I would like to acknowledge with great appreciation your strong support of our nation's water resources programs.

Mr. Chairman, I appear before you for three reasons: one, to lend our support to a healthy operations and maintenance budget for the U.S. Army Corps of Engineers' navigation program; two, to urge this committee to provide the level of support necessary for the Corps' regulatory mission to function effectively; and, three, to encourage your support for a regular two-year cycle of water resources authorization legislation.

Regarding the Corps' O&M account, it should be noted that the funding needed to maintain America's international trade infrastructure is an investment in the health of our economy in an increasingly competitive world marketplace. It yields phenomenal returns. Every day, the navigation system and our marine terminal facilities contribute over $268 million to the U.S. economy. Commercial port activity generates over 1.2 million jobs, contributes $50 billion to the gross national product, provides personal income of $28 billion, and generates federal taxes of $10 billion and state and local taxes of $3.5 billion. Furthermore, the U.S. Customs Service collects about $12 billion per year in trade related revenues. In comparison, it now costs the Corps of Engineers less than $270 million per year to maintain our deepdraft commercial navigation system.

It is not hard to see the benefit of our investment in this vital infrastructure. Ninety-five percent of the world's traded goods are transported in oceangoing vessels that require navigational access to and from U.S. markets. Unlike the condition of our surface transportation system, the navigation system is in fairly good shape. Since the Water Resources Development Act of 1986, many long needed construction projects have gone forward and several have been completed through some useable increment.

Despite these successes, we have reason to be concerned about maintaining the system we have built. The Corps' O&M budget is essentially a status quo budget -- its modest growth is not enough to keep pace with aging infrastructure maintenance requirements and, for the dredging program, fewer and more expensive dredged material disposal solutions.

There is no doubt that dredging will become more expensive as time passes. There are several reasons for this: there are fewer upland disposal areas available in our growing coastal regions; the demand for coastal property has driven up the price of land that is available; wetlands cannot be filled; shallow bay bottoms must be protected; there is a federal statutory presumption against open water disposal; ocean disposal sites farther out to sea are being considered; more intensive dredged material testing and monitoring programs are increasing costs; and the small fraction of highly contaminated sediments lead the public to believe that all underwater soil must be "toxic sludge." These perceptions are having an effect on the cost and effectiveness of the program.

The combined effect of these trends is quite serious for many ports as well as the Corps' national maintenance dredging program. There are at least three things that need to be done to reverse these trends. First, we need better long term disposal planning and management. Second, funding for the Corps' environmental mission needs to be found with the necessary authority given to the Corps to clean up "hot spots" outside navigation channels. Third, we must use dredged material beneficially to a greater degree than we do now. There are opportunities to restore and create wetlands, build underwater habitat, slow down coastal erosion, and replenish beaches. Where they are cost-effective, they are now being done as is the case with beach replenishment. However, many of these beneficial uses are more expensive than traditional disposal solutions and are, therefore, not usually considered.

Mr. Chairman, I am fully aware of the budget difficulties you face, but one way to meet these needs in a cost effective manner would be to create a separate account for "project augmentation" purposes. The incremental costs of environmental restoration projects undertaken in concert with the O&M program could be funded from this source. In a separate account, it would be very easy to audit how and where this money is spent.

Regarding the Corps' regulatory mission, there is currently a hiring freeze for Corps personnel which could impede the progress we have made in securing permit reviews in a timely and professional manner. We would hope that such a hiring freeze would not cost regulated industries more in terms of delays than it is saving the federal government.

Mr. Chairman, in urging this committee to support passage of the Water Resources Development Act 1990, we recognize that this committee has no direct jurisdiction. Nonetheless, AAPA would welcome the support this committee could provide for a regularized process whereby we achieve predictable and consistent project authorizations and funding. In this light, passage of WRDA 1990 takes on added significance, even if it is only modest in scope.

Let me take this opportunity to comment on the President's proposed ad valorem tax increase for harbor maintenance. In general, the new level, more than triple the current .04 percent, would raise more than 100 percent of what is necessary to maintain the commercial ports used by the shippers paying the tax. For example, included in the definition of harbors eligible for Harbor Maintenance Tax funds are 480 shallow draft harbors (less than 14 foot draft) where neither the harbor maintenance nor the inland fuel tax is collected. Next year, the Corps has budgeted $77 million for the maintenance of these shallow draft harbors.

Mr. Chairman, AAPA would be willing to consider the benefits of having a dedicated revenue source to fund 100 percent of the regular maintenance of the U.S. commercial deep draft navigation system through the proposed increase in the ad valorem tax. However, we would be concerned with the potential that it would end up like so many other "trust funds" -- used solely for reducing the budget deficit. Moreover, the Administration contemplates NOAA using revenues from the fund for its activities, which are not related to the intent of the fund, clearly an ill-advised precedent. Whatever the outcome of the tax increase proposal, we would support increased enforcement of the current tax.

In conclusion, I would like to reemphasize that maintaining our navigation system has immediate and enormous national and regional economic impacts in addition to the vital role it plays in our national defense. Despite the inevitability of increased costs, the system's benefits far exceed any reasonable amount invested. Again, thank you for the opportunity to present our views.

MAINTENANCE DREDGING PROGRAM

STATEMENT OF G.W. (BILLY) JAMES III, NATIONAL ASSOCIATION OF DREDGING CONTRACTORS [NADC]

ACCOMPANIED BY ROBERT E. LOSCH, COUNSEL, NADC

Senator DECONCINI. Our last witness will be Mr. G.W. (Billy) James, National Association of Dredging Contractors.

Welcome, Mr. James, and Mr. Losch who is also with you. Welcome, gentlemen.

Mr. JAMES. Thank you, Mr. Chairman. I am appearing today on behalf of the National Association of Dredging Contractors and our prepared statement has been submitted for the record.

Senator DECONCINI. It will be in the record.

Mr. JAMES. I will summarize our prepared statement.

We are appearing today before the committee to express our concerns over the current status of the Corps of Engineers maintenance dredging program.

The dollar amount of maintenance dredging work performed by the dredging industry during the 6-year period from fiscal year 1984 through fiscal year 1989 has steadily declined from $376 million to $227 million. This represents a dramatic 39 percent reduction in funding applied to their navigation mission.

We would also point out that whenever there are reductions in the "Operation and maintenance general" account due to budgetary constraints the Corps takes the cuts out of that portion of the maintenance dredging program that is to be performed by private industry. As a result, a substantial number of Federal navigation projects are being deferred from one fiscal year to the next.

The deferral of the central maintenance dredging projects threatens the preservation of our navigational infrastructure and results in costly delays to maritime traffic. It is important to emphasize that it is the dredging industry that takes the brunt of the funding cuts made in the maintenance dredging program.

The work assigned to the Corps minimum fleet is not reduced and the Corps continues to operate as usual without any cutback in the operational schedule for its dredges. To be equitable, the operational schedule of the Corps minimum fleet should also be reduced in view of budgetary constraints.

Not all of our concerns with the Corps maintenance dredging program are attributable to budgetary constraints. In the last fiscal year, there were significant disruptions to the program due to other factors. At the outset of fiscal year 1989, the Corps released $200 million to the division engineers without providing specific instructions as to how the funds were to be expended. Consequently, a significant part of these funds were allocated to unbudgeted projects not related to the maintenance dredging program or the navigation mission.

As a result of the diversion of funds from the dredging program in fiscal year 1989, there was a substantial shortfall of funding available for maintenance dredging to be performed by private industry, which caused a temporary suspension of advertisements.

The Corps in fiscal year 1989 budgeted $279 million for the maintenance dredging program to be performed by industry. The actual amount expended was only $227 million. As a result, 45 projects were canceled in fiscal year 1989 and rescheduled for fiscal year 1990 at an estimated cost of $25 million. The Corps was forced to cancel these projects primarily because of a lack of funds, notwithstanding the fact that industry's bid on jobs advertised in fiscal year 1989 were $26 million, or 10 percent, less than the Government's cost estimate without profit.

We strongly urge the committee to earmark, or clearly define the total funds appropriated for maintenance dredging of channels and harbors to avoid the continued deferral of essential maintenance dredging projects from one year to the next, and to provide channel dimensions for the safe and efficient movement of maritime traffic.

HARBOR MAINTENANCE TRUST FUND

We support the administration's proposed legislation, which would increase the ad valorem user fee imposed on applicable commercial cargo to cover 100 percent, rather than the current 40 percent, of harbor maintenance project costs out of funds appropriated from the harbor maintenance trust fund. However, we would urge that the trust fund be excluded from the section 302(b) Budget Committee allocation.

There is one other important recommendation we would make to the committee which is essential to protect the navigational infrastructure of our ports and waterways. Unanticipated emergency dredging costs should be funded out of the revolving fund, and to replenish the fund the Corps should submit to the committee a supplemental appropriation request to replace the fund. This procedure will avoid depleting the funds appropriated by the committee for maintenance dredging projects.

Mr. Chairman, I appreciate the opportunity to present our testimony before you today.

Senator DECONCINI. Thank you very much, Mr. James. That testimony is helpful. I just had explained to me some of the problems the Corps had last year, and I guess you are aware of their problems and we will monitor that carefully this year and see what kind of situation they come up with.

Has the Corps testified? They have not. When they are here we can explore that with them.

Mr. JAMES. Thank you. I can assure the 3-month hiatus in award of contracts is a serious problem for contractors, and we appreciate your attention.

Senator DECONCINI. Thank you very much, gentlemen.

[The statement follows:]

STATEMENT OF DEWITT D. BARLOW III, PRESIDENT, NATIONAL ASSOCIATION OF DREDGING CONTRACTORS

Mr. Chairman, and members of the Subcommittee, my name is Dewitt D. Barlow, III. I am President of the National Association of Dredging Contractors. I am also President and Chief Executive Officer of Great Lakes Dredge & Dock Company, Oak Brook, Illinois. Accompanying me is our Association's counsel, Bob Losch.

We appreciate the opportunity to testify before the Committee today. As you know, we have not appeared before this distinguished Committee in the last few years. However, this year, we feel it is important to express our concerns over the current status of the Corps of Engineers' Maintenance Dredging Program.

The dollar amount of maintenance dredging work performed by the dredging industry during the 6-year period from FY 1984 through FY 1989 has steadily declined from $376 million to $227 million. This represents a dramatic 39 percent reduction in the funding applied to the navigation mission. We would also point out that whenever there are reductions in the Operation and Maintenance, General account, due to budgetary constraints, the Corps takes the cuts out of that portion of the maintenance dredging program that is to be performed by industry. As a result, a substantial number of Federal navigation projects are being deferred from one fiscal year to the next, ad infinitum. This is a "Rob-Peter-to-Pay-Paul" operation and is not consistent with the funding allocated by this Committee. The deferral of essential maintenance dredging projects threatens the preservation of our navigational infrastructure and results in costly delays to maritime traffic.

It is important to emphasize that it is the dredging industry that takes the brunt of the funding cuts made in the maintenance dredging program. The work assigned to the Corps' minimum fleet is not reduced, and the Corps continues to operate as usual without any cutback in the operational schedule for its dredges. To be equitable, the operational schedule of the Corps' minimum fleet should be reduced in view of budgetary constraints.

Not all of our concerns with the Corps' maintenance dredging program are attributable to budgetary constraints. In the last fiscal year, there were significant disruptions to the program due to other factors. At the outset of FY 1989, the Corps released $200 million to the Division Engineers without providing specific instructions as to how the funds were to be expended. Consequently, a significant part of these funds were allocated to unbudgeted projects not related to the maintenance dredging program or the navigation mission. As a result of the diversion of funds from the dredging program in FY 1989, there was a substantial shortfall of funding available for maintenance dredging to be performed by industry which caused a temporary suspension of advertisements.

The Corps, in FY 1989, budgeted $279 million for the maintenance dredging program to be performed by industry. The actual amount expended was only $227 million. As a result, 45 projects were cancelled in FY 1989 and re-scheduled for FY 1990. The estimated cost of these projects totalled approximately $25 million. The Corps was forced to cancel these projects primarily because of the lack of funds, notwithstanding the fact that industry's bids on jobs advertised in FY 1989 were $26 million, or 10% less than the Government's cost estimate without profit. These were very favorable bids, Mr. Chairman, because as you know, the Corps is authorized, under a legislative mandate, to award a contract when the industry bid is not more than 25 percent in excess of the Corps' cost estimate.

In addition, a substantial number of the budgeted dredging projects actually bid were delayed by slippage or postponement due to the problem caused by the funds being diverted from the program. The period of delay or postponement was extensive, ranging from one month to nine months. The maintenance dredging of the Black Warrior Lower Reach of the Tombigbee River is a good example of a delayed or postponed project. The advertisement for bids for this project was delayed by two months. As a result of the postponement, the shoaling caused interference and delays in the movement of barges on the waterway when the river stage receded.

We should point out that there is a difference between industry's and the Corps' data bases, which we estimate to be in the range of plus or minus five percent. This difference should be resolved in forthcoming meetings with the Corps and we will be pleased to provide the Committee with the final results on the program for FY 1989. Nevertheless, we believe the statistics we have cited provide a reasonable overview of the FY 1989 maintenance dredging program performed by industry.

Mr. Chairman, we also wish to make it clear that our comments are not intended in any way to be critical of the Corps of Engineers' Headquarters staff. The Corps, as we all know, has done an extraordinary job in management of the dredging program. We have nothing but the highest praise for the Corps' personnel. Our comments and recommendations are offered in a constructive way to enhance and strengthen the maintenance dredging program. We would point out that the Corps' Dredging Branch has been understaffed, and we understand that the Corps is having difficulty in attracting qualified personnel to Washington from their field offices because of the high cost of living in the Metropolitan Area. The major problem is that the hiring freeze imposed by the Secretary of Defense prohibits the Corps from filling existing vacancies.

We are pleased to point out that we have been informed that the Corps has implemented internal controls to ensure that there is no re-occurrence of the problems similar to those encountered in the maintenance dredging program in FY 1989. Nevertheless, we strongly urge the Committee to earmark, or clearly define, the total funds appropriated for maintenance dredging of channels and harbors to avoid the continued deferral of essential maintenance dredging projects from one year to the next, and to provide channel dimensions for the safe and efficient movement of the maritime traffic. The earmarking of the total maintenance dredging funding allocated by this Committee will provide sufficient flexibility to permit the Corps to shift funds, based upon a change in requirements, from one navigation project to another. To provide more flexibility, we would further suggest that the Corps be required to submit a re-programming request to the Committee only when the maintenance dredging funds are to be reduced by more than 10 percent.

We support the Administration's proposed legislation which would increase the ad valorem user fee imposed on applicable commercial cargo to cover 100 percent, rather than the current 40 percent, of harbor maintenance project costs out of funds appropriated from the Harbor Maintenance Trust Fund. If this legislation is enacted, we would urge the Committee in its report to clearly earmark the funds appropriated for maintenance dredging from the Harbor Maintenance Trust Fund. We are also urging the authorizing Committees to include statutory language in the legislation to ensure that any surplus in the trust fund is not used as an offset to the national deficit. To accomplish this objective, we are proposing that the Harbor Maintenance Trust Fund be specifically excluded from the Section 302(b) Budget Committee allocation. In addition, the legislation proposed by the Administration should be amended to provide that, in the event there are not sufficient funds available from the Harbor Maintenance Trust Fund for the operation and maintenance of Federal navigation projects, the balance of the required expenditures may be obtained from an appropriation from the general funds of the Treasury.

There is one other important recommendation we would make to the Committee to ensure that regularly scheduled maintenance of channels and harbors is performed, which is essential if we are to protect the navigational infrastructure of our ports and waterways. Unanticipated emergency dredging costs should be funded out of the Revolving Fund, and to replenish the funds, the Corps should submit to the Committee a supplemental appropriation request for such funds. This procedure will avoid depleting the funds appropriated by the Committee for maintenance dredging projects.

Mr. Chairman, I appreciate the opportunity to testify before you and the Subcommittee.

NATIONAL WATER RESOURCE ASSOCIATIONS

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

Senator DECONCINI. The staff has informed me that the committee has received prepared testimony from several national water organizations.

I'll make those part of the record at this point.

[The statements follow:]

STATEMENT OF WATER RESOURCES CONGRESS

I am John W. Morris, Chairman of the Board of Directors of the Water Resources Congress, an eighty-eight-year old association whose primary mission is the support of wise water resource development and management across the Nation.

I have appeared before this Committee on previous occasions testifying in support of the Civil Works program of the Army Corps of Engineers. But military or civilian, my interest continues to be focused on where we are heading in the pursuit of water project formulation, construction, operation and maintenance

Our membership works tirelessly in support of river basin developments of the Corps of Engineers and the Department of the Interior's Bureau of Reclamation. While time does not permit a recital of project by project listings and the funds needed to push them along to completion, there are three programs underway that deserve the continued attention of this Committee --flood control, transportation, and irrigation.

Flood control, which for many years was the battle cry of Water Resources Congress, continues be a most sought after improvement in the struggle over Nature's deluges from rain and snow melt. WRC joins the Corps of Engineers in supporting and seeking funds for flood control projects from the West Coast to New England and from our northern states to the deep south.

We appreciate the support of this Committee in its efforts to modernize our important navigation system by funding for much needed locks and dams on the Mississippi, Ohio, Monongahela and Columbia rivers. And, of course, we applaud your staunch support of the Tennessee-Tombigbee Waterway in its new status as an operation and maintenance project.

The Mississippi River and Tributaries projects on which Water Resources Congress cut its eyeteeth, has been a long-time account on your books, and one which has paid rich dividends in flood control and navigation over the past many years.

Bureau of Reclamation projects in Western states also have the approval and backing of Water Resources Congress. Notable by its absence in this agency's budget is the Garrison Diversion Unit in North Dakota. Once again the stepchild of the Pick-Sloan Plan is being pushed to the brink of starvation for lack of funds. Were it not for this Committee's care and feeding the Garrison Diversion Unit would be a footnote in the history of the Missouri River Basin Development.

The Garrison Diversion Unit, runt of the Pick-Sloan litter, was authorized under the Flood Control Act of 1944. Many projects in the Class of 1944 have been built and in operation for more than 30 years.

Permit me to quote from a news release issued by the Missouri River Division office of the Army Corps of Engineers. "The outlook for relief from the drought is not optimistic...For all practical purposes, there is no snow on the plains in the upper basin. The mountain snowpack above the Fort Peck and Garrison projects in Montana and North Dakota is below normal for this time of the year...The lack of snow coupled with the depleted soil moisture in the upper basin points to a continuation of the drought..."

This release was issued a little over two weeks ago. So drought is still with us. What more evidence do we need that the Garrison Diversion Unit should be built. Two ingredients to help alleviate a drought are stored water for municipal and agricultural uses and a delivery system to move the water. The stored water is in North Dakota behind Garrison Dam, and has been for many years. What has been needed for so long is the delivery system.

I urge this Committee to complete this project. Irrigation is an old practice but not old fashioned.

As we look ahead, we are reminded that the nature of water resources development and management has changed markedly over the years. Issues and challenges are crystallizing, now that the landmark Water Resources Development Act of 1986 has had three years of implementation, and that it appears reasonable to assume there will be authorization acts every two years, after a 16-year hiatus. The broad issues facing our Nation today include the need for total urban water management; a rational wetlands policy; river corridor management; conservation of water and related land resources; regional drought management; fish and wildlife mitigation policy; reservoir storage for water quality control; the need to improve Federal emergency storm damage relief; groundwater contamination and irrigation programs and policy.

To confront these problems, WRC has developed a platform of issue-based objectives to influence this Nation's water policy as we approach the next millennium. We call this platform "Challenge 2000."

My testimony therefor relates to not only the interests of this committee, but also to the public works authorization committees in both houses. WRC has national, regional, state, local and specific project concerns, where those projects are symptomatic of a larger problem. Some specific project concerns which I shall mention as examples of broader issues include:

- o Waters Bluff Reservoir, Texas
- o Two Forks Reservoir, Colorado
- o Big River Reservoir, Rhode Island
- o The Garrison Diversion, North Dakota
- o Upper Mississippi Navigation Improvements
- o Missouri River Mainstem Reservoir Management
- o Lake Sidney Lanier, Georgia, Storage Re-allocation
- o Freshwater diversion projects in Louisiana
- o The Everglades in Florida
- o Cape Fear River Improvement, North Carolina

The first two projects on this short list, Waters Bluff and Two Forks are not being funded by the federal government, and therefor may not be of direct interest to this committee; but they have been stopped or delayed in a manner which has wasted federal dollars, including those that you have appropriated to the Corps' regulatory program.

The remaining projects are major examples of the need to increase funding levels for water resources development and management. WRC encourages you to increase funding by a substantial amount for those projects which add storage or improve operational efficiency, such as the Garrison Project.

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The drought of the 1980's, and particularly 1988, especially in the southeast, have not been understood or appreciated adequately. You are aware of the growing controversy over the proposed reallocation of storage in reservoirs in the Atlanta region (e.g., Lake Sidney Lanier); a multi-state problem. Should drought conditions such as 1988 strike after another 20 years of growth, the consequences could be catastrophic. The point is that we should invest now, or we certainly will pay later.

That brings me to an item in the Corps' budget request; namely, the National Water Resources Management Study under General Investigations. WRC believes that study should be greatly expanded to respond to the intent of Congress, as expressed in Sections 707 and 729 of WRDA '86. The justification data and the Corps' plan of study simply do not do justice to the intent. We believe it is critical that funding be increased for this study and that the Corps be given directive language to expand the study's scope. The Corps is doing an excellent job in pursuing this study, given the prescribed limitations. If adequately funded and aggressively pursued, the study should pinpoint those regions and urban areas in critical need of total water management. Total water management in urban areas is especially important to America's future. WRC believes that federal investment in this aspect of America's water future is a fundamental need.

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Several of the projects I have listed involve the wetlands controversy; or perhaps I should say, the "no-net loss of wetlands" concept. The WRC membership is extremely concerned about this issue, and we believe it affects this committee directly.

The President's avowed goal of "no-net-loss of wetlands" is based on objectives which WRC supports, but which we pragmatically believe will be unachievable even with massive investments which the federal government cannot presently afford. The Corps and other agencies budget requests in this regard are woeful. WRC anticipates that $1,000,000,000 per year could become necessary to confront the problem. A good place to start would be increased funding to accelerate freshwater diversion projects in coastal Louisiana, and to increase federal support of efforts to protect and rehabilitate the Everglades.

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One root cause of the wetlands controversy is the Clean Water Act, especially, Section 404. The deficiencies of the Clean Water Act are probably already of concern to this committee. Many decisions to not proceed with particular projects come far too late in the planning, engineering, and design process; after millions of dollars of federal investment in the studies. Particularly, Section 404c of the Act gives the Administrator of the Environmental Protection Agency power to veto projects after years of study and coordination. Examples are the Two Forks reservoir project in Colorado, and the Corps' Big River reservoir project in Rhode Island.

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There also are navigation studies and projects which WRC believes should be accelerated to achieve maximum economic return to the Nation. These include the Cape Fear River, North Carolina, navigation improvement project, now being evaluated by the Corps of Engineers; the inland waterways projects recommended for acceleration by the Inland Waterways Users Board, which WRC strongly supports; also, WRC believes that funding for studies by the Corps of navigation problems on the Upper Mississippi River and the Illinois River are critical to a clear understanding of the challenges facing the Inland Waterways Trust Fund. WRC commends the Corps for its analyses and projections of the trust fund's status; but, the Corps is extremely handicapped by lack of adequate funding to support system wide management of this economically vital segment of our infrastructure.

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Interstate water supply problems are excellent examples. Clearly, there should be federal interest in resolving such problems, and federal statutes allow federal participation; yet administration policy relegates these problems to non-federal entities.

Another example of lack of "federal interest" is outdoor recreation. Many beach restoration, and other, projects generate significant net National Economic Development" (NED) benefits in terms of savings in transportation and other cost. Yet again, current Administration policy relegates projects dependent upon recreation benefits to non-federal interests.

A last example is water quality control. During the 1960's federal agencies included storage in reservoir projects to make minimum releases to improve water quality during periods of extreme low flow. Inclusion of water quality storage was based on recommendations of the Environmental Protection Agency. For reasons unclear, EPA opted over a decade ago to no longer recommend the inclusion of water quality storage in federal reservoirs. The popularly attributed reason was that the solution to pollution is not dilution; But that is wrong. In fact dilution is highly desirable for a variety of factors, including increased waste assimilation and improved oxygenation. These attributes can be very beneficial in offsetting the effects of non-point pollution and can be valuable reserves in times of extreme drought.

Even though cost-sharing has been stipulated in the law for cases such as the above, present Administration policy does not allow federal participation. Moreover, in those few cases where there is a federal interest, the strict up-front financing requirements discourage state and local investment in projects of National economic importance.

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WRC is concerned that both Congress and the Administration recognize the criticality of water resources management and development. Water is our most precious resource. We ask that this committee carefully consider the problems we have outlined above in your deliberations.

STATEMENT OF THE NATIONAL WATER RESOURCES ASSOCIATION

I am Thomas F. Donnelly, Executive Vice President of the National Water Resources Association, I appear before this Committee today to express the Association's concerns and interests in the President's Fiscal Year 1991 Budget Request for the U.S. Bureau of Reclamation.

The National Water Resources Association (NWRA) is a nonprofit federation of associations and individuals dedicated to the conservation, enhancement, and efficient management of our Nation's most precious natural resource, WATER. The NWRA is the oldest and most active national association concerned with water resources policy and development. Its strength is a reflection of the tremendous "grassroots" participation it has generated on virtually every national issue affecting western water conservation, management, and development.

While we are cognizant of the tremendous budget deficit, we believe there are several areas where adjustments can and should be made that will increase the productivity of the Bureau's programs and result in a long-term savings to the Federal government.

U.S. BUREAU OF RECLAMATION

CONSTRUCTION- Three years ago, the Department of Interior proposed a construction program policy change. The Department undertook funding of so-called "high priority" projects at the expense of many ongoing projects. Many members of Congress and project sponsors were told by the Secretary of Interior to be patient. They were told their projects would be completed in a cost efficient and timely manner. The plan, as described to the "have nots," called for a constant level of construction funding over time and as the "high priority" projects were completed, the delayed projects would be brought on line and funded to their maximum annual construction capacity.

The reality of the proposed plan is quite different from the one that Secretary Hodel described at the time. Over the past three years, the Construction budget has steadily decreased and the "have nots" are now faced with the cruel reality.

The project and people most affected by this questionable policy decision are the long-suffering sponsors of the **Garrison Diversion Project** in North Dakota. This year the Administration is proposing to shut down the Garrison Diversion Project.

In 1986, the Congress passed and the President signed the Garrison Diversion Unit Reformulation Act of 1986. The Act represented a recommitment of the Congress and the Administration to a project that was environmentally sound and met some of the commitments made by the Federal Government in 1944. Now, even that modest commitment to the people of North Dakota is in jeopardy.

As I listened to President Bush's 1989 Inaugural Address, I was moved and encouraged by one statement in particular. President Bush described, in my opinion, what this Nation should symbolize to it citizens and the World. He said, "Great nations like great men must keep their word. When America says something, America means it, whether a treaty or an agreement or a vow made on marble steps."

We urge this committee to show the citizens of North Dakota that America does, in fact, honor its commitments. We are asking that $45 million be commited to the Garrison Diversion Project for FY-1991.

In addition, we ask that the committee make a strong statement in the Appropriations bill that clarifies for the Office of Management and Budget and the Administration that Congress intends that this project represents a long-standing restitution to North Dakota that shall not be second guessed or subject to any reevaluation.

OPERATION AND MAINTENANCE- In prior years, the Office of Management and Budget has recommended annual budgets that failed to provide the level of funding required to adequately operate and maintain existing projects. Severe fiscal constraints have caused important Bureau maintenance items to be deferred. During initial periods of austerity, the process of prioritizing work and deciding which items are to be deferred is rather simple. A judgement is made on the basis of the consequences for not accomplishing the identified work. After several cycles of this decision and prioritization process, the available fiscal resources gradually come to bear on crisis situations and the Bureau finds itself responding to emergency and breakdown maintenance.

In 1987, the Bureau of Reclamation recognized the critical nature of the backlog of operation, maintenance, and replacement work. They identified this problem as a top priority and developed a program to reduce the backlog. This program must be funded at the requested level if we are to prevent costly operational failures and unnecessary emergency maintenance.

It is important to note that Bureau of Reclamation project water users are required by law to reimburse the Federal Government for operation and maintenance expenditures within the year incurred.

We urge the Committee to support the $231.5 million being requested for the Bureau's Operation and Maintenance Program.

SMALL PROJECTS PROGRAM- The Small Reclamation Projects Act (PL 84-984) as amended and the Distribution System Act (PL 84-130) as amended provide models for nationwide programs which can effectively give urgently needed assistance to State and local agencies for the construction of new multi-purpose water resource projects; for the rehabilitation of similar already constructed projects; and for the meeting of modern needs and conditions including water, energy and environmental conservation, water quality control, and supplemental supplies to stabilize depleting groundwater basins.

Over the past few years, the level of funding for these important programs has continually decreased. These programs embody all the elements of quality water resources development: cost-sharing, conservation, and water management effeciency.

This year, the Administration has reduced this program by $27.9 million to only $5.7 million, its lowest level.

There exists a tremendous backlog of small projects whose project sponsors have made a considerable cost-sharing commitment. We believe these projects should be completed in a timely manner.

While we are not requesting additional funding in FY-1991, we would urge the Committee, in future years, to maintain a relatively constant level of funding for these valuable programs of approximately $50 million annually.

WATER SUPPLY DATA ACQUISITION- Prudent management of surface water in the western United States depends, in large measure, on water supply forecasts made cooperatively by the Department of Agriculture's Soil Conservation Service, the Department of Interior's Geological Survey, and the National Oceanic and Atmospheric Administration's National Weather Service; and on supporting data collection and analysis by those agencies through both manual and automated means from remote locations. These services provide a vital tool for flood control, river regulation, water supply, power generation, and other multiple use purposes of Federal reservoirs.

The Department of Agriculture's Soil Conservation Service administers a highly efficient and cost-effective cooperative Snow Survey and Water Supply Forecast Program which minimizes duplication and uses the latest advances in modern technology for the benefit of water users throughout the West.

The Department of Interior's Geological Survey measures and catalogues much of the available data defining the nation's surface and groundwater supplies needed to operate Federal and many state and local water supply systems. It is a highly professional technical and scientific organization on which water supply managers throughout the country have relied for many years.

The National Oceanic and Atmospheric Administration operates several satellite systems that provide communication as well as remote sensing functions vital to the health and safety of the general public as well as the management of water resources.

There continues to be persistent pressure to reduce the role of the Federal government in the area of hydrological data collection and weather forecasting. We believe that it is in the best interest of the country and in particular the managers and users of the nation's limited water resources that these three Federal agencies continue to perform these functions effectively.

We, therefore, urge the Committee to fund those of the aforementioned programs within its jurisdiction at a level that allows for efficient operation of this well coordinated program.

GROUNDWATER RECHARGE DEMONSTRATION PROJECT- The Groundwater Recharge Demonstration Project is a product of the High Plains States Groundwater Demonstration Program Act of 1983 (PL 93-434). This Program is important to the future of groundwater management. It will allow the Federal government and states to gain important knowledge of groundwater recharge, and understand its impact on replenishing our aquifers. We are supportive of the President's proposed funding level for this program and encourage the Committee to continue its support for the Groundwater Recharge Demonstration Project.

STATEMENT OF THE INTERSTATE CONFERENCE ON WATER POLICY

The Interstate Conference on Water Policy (ICWP) is the independent national association of state, interstate, and regional water administrators concerned with water quantity and quality management, conservation, and development. Since 1959, ICWP has been the voice for state water resource management concerns, particularly with regard to the relationship between state and federal programs, regulatory authority, and information exchange.

ICWP has reviewed the FY 1991 Civil Works budget request for the U.S. Army Corps of Engineers and is pleased to see that it includes a number of new initiatives and expanded efforts that address issues which ICWP believes are of high priority. In particular, ICWP supports the proposals for an expanded wetlands research effort, the continuation of the Corps' comprehensive review of the O&M program, the establishment of a Federal Infrastructure Advisory Board, and the initiation of a climate change impact research program. In addition, ICWP is pleased to see a new emphasis on environmental maintenance and restoration. This nation's civil works program must not only be sensitive to the environmental effects of water resource development projects, but must also be an agent for environmental protection and enhancement.

While there are a number of initiatives in the FY 1991 civil works program which ICWP supports, our comments will focus on a few specific items of standing concern:

SECTION 22 AND FLOOD PLAIN MANAGEMENT SERVICES

The budget proposal includes $4.5 million for planning assistance to states (Section 22 studies) and $9 million for flood plain management services. This budget request is accompanied by a proposal to cost-share these services with nonfederal sponsors on a graduated scale beginning with 10 percent in FY 1991 and increasing to 50 percent by FY 1993.

This cost-sharing proposal is similar to the one offered by the Administration last year and rejected by this Committee as contrary to the intent of current law. As the House Committee Report (H. Report 101-96) indicated last year, the costs of developing and maintaining separate cost-sharing agreements for each individual study would simply outweigh the benefits of increased revenues from local sponsors. In addition, as discussed in our testimony last year, ICWP opposes such cost-sharing for a variety of reasons related to the fundamental purposes of these services.

Throughout its history, the Section 22 planning assistance program has yielded a wide variety of products that have been invaluable in supplementing the water resources management capability of the states. To a large degree, many of these efforts are already being conducted on a partnership basis. State resources are frequently devoted to these studies or data acquisition efforts by providing in-kind services including state staff support. In this way, Section 22 studies are not only already cost-shared, but they provide flexibility to respond to special needs. Requiring cost-sharing in the form of cash matches may very well destroy the utility of the program.

Congress recognized the value of the Section 22 planning assistance program when the authorized funding level for the program was raised from $4 million to $6 million in the Water Resources Development Act of 1986. The cost-sharing reforms of that Act were not applied to ~~the Section~~ 22 program. ICWP believes this was done for good reason and that cost-sharing principles should not now be extended to include Corps of Engineers technical services. Cost-sharing requires significant advance cooperative planning and scheduling of state fiscal resources. Requiring cost-sharing of Section 22 studies may thus eliminate the flexibility that is fundamental to this program. In the past, Section 22 authority has been used to respond to various emergency situations and special needs. These efforts can be and often are of a collaborative nature. However, cash match funding is simply inappropriate for these programs.

Secondly, many states utilize Section 22 planning assistance for reconnaissance level type studies. As provided in Section 905(b) of the Water Resources Development Act of 1986, reconnaissance level studies do not require nonfederal cost-sharing, but are conducted at full federal expense.

ICWP urges that $5 million be appropriated for planning assistance to states and $10 million for flood plain management services. Furthermore, ICWP urges that Congress specifically direct the Corps of Engineers to offer those services without requirement of nonfederal funding matches.

DROUGHT STUDY

The budget proposal includes $2.5 million to continue the National Water Management During Drought Study. ICWP supports this study and has been working closely with the Corps on the development of the plan of study for this effort and on the Phase 1 activities begun in FY 1990.

The primary objectives of the study are to determine how water is managed during drought, to formulate and evaluate alternatives, and to make recommendations for more efficient and effective drought response. Given the nature of existing drought response strategies and mechanisms in the country, it is clear that this study will require close collaboration with state and regional agencies. In recognition of this fact, ICWP and its member states have committed themselves to providing nonfederal perspectives and guidance during the course of the study. We also hope to participate in crafting the recommendations that result from this effort.

RECREATION PARTNERSHIP INITIATIVE

In FY 1990, the Corps of Engineers began a three-year effort called "Recreation Partnerships Initiative." The FY 1991 budget proposal includes $800,000 to continue this important program. The initiative is intended to identify opportunities for non-federal public agencies and the private sector to become more involved in the development, enhancement, and operation of recreational facilities on Corps project lands.

ICWP believes this effort is, at least in part, a response to the controversy aroused over the Administration's proposal last year to close or defer maintenance of a number of Corps recreational facilities. In response to that proposal, Congress restored the necessary funds to continue federal operation and maintenance of these projects and objected to the arbitrary criteria and lack of consultation with nonfederal interests in developing the closure proposal. ICWP views the Recreation Partnership Initiative as a reasonable and constructive response to the fundamental issue of how we can jointly assure that public recreation opportunities continue to be provided. ICWP is committed to working with the Corps of Engineers on this effort and urges that funds be provided for this initiative in FY 1991.

DAM SAFETY

For the past three years ICWP has testified in support of funding for the dam safety programs authorized in Title XII of the Water Resources Development Act of 1986. To date, no funds have been requested by the Administration nor provided by Congress. The budget proposal for FY 1991 still contains no funds to initiate these significant and potentially very useful programs for guaranteeing the safety and structural integrity of dams in this country.

Title XII of P.L. 99-662 authorized three significant efforts:

a) grants to assist states for establishing and/or maintaining dam safety programs ($13 million/year)

b) training for state dam safety inspectors ($500,000/year)

c) research to develop improved techniques and equipment for dam inspection ($2 million/year)

The authorization for these programs will expire in FY 1992 despite the fact that they have yet to begin. Action is necessary this year to provide the necessary funds and direct the Secretary of the Army to proceed with these important efforts if the dam safety program is ever to be implemented as authorized by Congress in 1986.

ADDITIONAL PREPARED STATEMENTS

Senator DECONCINI. The committee has also received several other statements regarding water resource matters which, without objection, will be incorporated in the record at this point.

[The statements follow:]

STATEMENT OF THE UPPER MISSISSIPPI RIVER BASIN ASSOCIATION

PROJECT: Upper Mississippi River System Environmental Management Program, IL, IA, MO, MN, WI

PRESIDENT'S REQUEST: $14.90 million

AUTHORIZATION: $19.455 million

PROPOSED APPROPRIATION: $19.455 million

Section 1103 of the Water Resources Development Act of 1986 authorized the Environmental Management Program (EMP) for the Upper Mississippi River System for a period of ten years. Fiscal year 1991 will mark the fourth year of this unique and precedent-setting program. Despite the fact that the EMP has been heralded as a prototype for environmental restoration efforts across the country, the program is endangered by funding shortfalls. In the first three years of the program (FY 1988 - 1990), funding levels have fallen short of authorized amounts by nearly $28 million. The President's FY 1991 budget proposes $14.9 million, roughly equivalent to last year's appropriation and still 24 percent short of authorized funding. This disturbing trend must be reversed.

The Upper Mississippi River Basin Association, established by the states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, serves as the primary regional forum for the implementation of the EMP. In this capacity, we have provided testimony to this subcommittee for the past four years promoting this collaborative venture. We are again pleased to offer the states' recommendations. This year we must advise Congress that this program will fall short of its original goals unless the history of funding shortfalls is reversed.

Although the Environmental Management Program includes a number of interrelated components, the major emphasis of the program is a) construction of projects to rehabilitate and enhance backwater and wetland habitats and b) the establishment of a long-term resource monitoring program.

The habitat projects are designed to restore or protect areas which are being adversely affected by sedimentation from upland erosion or by the use and operation of the system for navigation purposes. Each of the projects (ranging in cost from about $200,000 to $6 million) employ different types of techniques including such things as dredging to remove sediment, dike or levee construction, island creation, water control systems, or side channel closures or openings. There are currently over 50 different habitat projects which have been identified for remedial work under this program.

The long term resource monitoring program is the first program ever to monitor and analyze long term trends for the entire upper river system. Physical, chemical, and biological parameters are being monitored at a series of field stations along the river. A centralized facility near La Crosse, Wisconsin collects, stores, and analyzes this information so that all resource managers will have access to comprehensive scientific information. This data will be used to evaluate the effectiveness of habitat rehabilitation projects and to generally track the environmental health of the system. In addition, field and laboratory studies are being conducted of specific resource problems such as the extent and impacts of sedimentation, water level fluctuations and management options, and the impacts of navigation.

The Upper Mississippi River Basin Association supports appropriation of the full authorized amount of $19.455 million in FY 1991 for the Environmental Management Program. The President's FY 1991 budget request falls short of the authorized level by over $4.5 million. As the EMP enters its fourth year of a ten-year authorization, it is time to launch this program to its full capacity to meet both public expectations and the original vision of Congress. The effects of funding shortfalls are becoming increasingly evident:

1) Over 50 habitat rehabilitation projects have been identified for inclusion in this program. To date only four have been completed and construction contracts have been awarded for another four. Every year that funding falls short of authorized levels, more projects are delayed. For example, when Corps of Engineers programming documents were revised to reflect FY 1991 funding of $14.9 million rather than the fully authorized amount of

$19.45 million, the construction of seven habitat projects was delayed, in some cases by as much as one year. Design work on another three projects was delayed. Such delays will result in significantly fewer projects completed over the course of the ten years. The Association does not believe this modest effort is what Congress envisioned when the program was authorized in 1986. It surely is not adequate to meet the challenge of environmental degradation that currently threatens the diversity and viability of valuable river habitats.

2) Funding shortfalls in the long-term resource monitoring component of the EMP have a particularly troublesome effect. The ability of the program to produce timely, useful, and credible scientific information is a function of both how many parameters can be monitored and how many years of consecutive data can be compiled. The program was designed to identify trends over time (10 year minimum) for eight different resource variables. Limited funds have meant that there are currently only three components being monitored (water and sediments, vegetation, and fisheries). Perhaps even more troublesome is the fact that valuable years of data collection are being lost as we enter the fourth year of the program still constrained by funds that are inadequate to monitor this dynamic ecosystem.

3) Funding shortfalls have also been felt in what is called the "problem analysis" component of the program. Problem analysis is distinct from trend analysis in that it involves field and laboratory studies that address specific known resource problems such as the extent and impacts of sedimentation, water level fluctuations and management options, and the impacts of navigation. When the work program was adjusted for FY 1991 to reflect a $14.9 million total program rather than the fully authorized amount, these studies had to be cut back by 57 percent. These cutbacks again translate into increased delays in our ability to reach an understanding of the complex interrelationships of a multi-purpose river system. The absence of this type of data and analysis in the past precipitated contentious battles over river development which were, in large part, the impetus for the EMP. We cannot afford to enter the next century without the strong scientific data necessary to make sound management decisions.

In addition to these concerns, the states believe that it is important that the recreation projects authorized as part of the Environmental Management Program be initiated. To date, none of the funds appropriated for the Environmental Management Program have been devoted to recreational development because the Corps of Engineers has indicated that as a matter of national policy, it does not intend to pursue any recreation projects, even if they are cost-shared. This policy appears to be inconsistent with President Bush's interest in recreation and is clearly inconsistent with the multi-purpose management philosophy approved by Congress as a guide for future water policy on the Upper Mississippi River System.

A clear expression of Congressional intent will help insure that the recreational component of this multi-purpose program is preserved. In addition to providing funds for recreational development within the appropriations for the UMRS Environmental Management Program, it will be necessary for Congress to direct that a portion of those funds be expended on recreational development. The Upper Mississippi River Basin Association believes that statutory guidance is the only avenue available to redirect current policy with regard to recreational development. It is therefore the Association's recommendation that the FY 1991 Energy and Water Development Appropriations Bill include language as follows:

> "Within these funds, the Secretary of the Army is directed to initiate the design and construction of cost-shared recreation projects as part of the UMRS Environmental Management Program.

It is important to note that the UMRS Environmental Management Program is truly a collaborative effort. The Corps of Engineers, U.S. Fish and Wildlife Service, and the five basin states have all worked diligently to make this partnership a strong and viable one. Significant state resources have been devoted to the design and monitoring of habitat projects and in many instances, to the shared costs of construction and the full operation and maintenance of the projects once they are completed. We believe that these financial contributions are indicative of the high level of interest and support among the states for this unique regional program.

While the Upper Mississippi River Basin Association is requesting that an additional $4.5 million be appropriated for the EMP in FY 1991, the Governors of the five states which participate in this partnership program are keenly sensitive to the need for fiscal restraint to control the federal deficit. We are therefore requesting that an increase in funding for the UMRS Environmental Management Program be accommodated within the total civil works budget for the Corps of Engineers. However, the State of Missouri supports the President's FY 1991 budget request and is seeking fully authorized funding in future budget cycles.

As the Environmental Management Program matures, the effects of funding shortfalls in the early years of the program are becoming increasingly clear. However, all those involved in the EMP are extremely enthusiastic about its potential and dedicated to its success. It is a program that for the past three years has been an integral part of the Corps of Engineers growing environmental stewardship. This year's Corps budget highlights the agency's environmental restoration initiatives. We agree with Chief of Engineers Lt. General Henry Hatch when he laid out the Corps' new environmental policy this February by saying it is increasingly clear that the nation's security "relies on a healthy natural resource base" and that "an environmental ethic must be an integral part of how we conduct our business." The EMP is part of this environmental ethic. In addition it complements the Administration's commitment to wetlands protection and restoration. The Upper Mississippi River Basin Association believes that the Environmental Management Program is an integral part of this country's environmental program, a wise investment, and an investment which we urge be made.

STATEMENT OF THE UPPER MISSISSIPPI FLOOD CONTROL ASSOCIATION

LIST OF WITNESSES

WILLIAM H. KLINGNER, PRESIDENT
613 Broadway, Quincy, Illinois 62301

JOHN KINSCHERFF, VICE-PRESIDENT, ILLINOIS
Nebo, Illinois 62355

DONALD C. McCONNELL, VICE-PRESIDENT, MISSOURI
Taylor, Missouri 63471

WILLIAM J. PIEPER, VICE-PRESIDENT, IOWA
R.F.D.
Wever, Iowa 52658

MICHAEL D. KLINGNER, SECRETARY
613 Broadway, Quincy, Illinois 62301

SUMMARY AUTHORIZED PROJECTS

PROJECTS	EST.FED. COSTS	BUDGETED FY 91	REQUESTS	REMARKS
1. South Quincy Drainage & Levee District, IL (F.C.)*	$7,155,000	0	Fully Funded	See Discussion
2. Green Bay Levee & Drainage Dist. No. 2, Iowa (PED)**	$ 700,000	0	$200,000	See Discussion
3. Muscatine Island Levee & Drainage Dist., Muscatine Louisa Co. Drainage District No. 13, Iowa (C)*	$ 5,720,000	$ 0 (C)	$650,000 (C)	See Discussion

*Flood Control
**(PED) Planning and Engineering Design
(C) Construction

Please bear with us as this testimony is largely repetitious of our testimony as presented, April 1989, basically due to the status quo of the projects.

Three of our twenty-four Member Districts were recommended for increased flood protection under P.L. 99-662. They are the South Quincy Drainage and Levee District, Illinois; Green Bay Levee and Drainage District No. 2, Iowa; and Muscatine Island Levee & Drainage District and Muscatine Louisa County Drainage District No. 13, Iowa.

A brief discussion of the three Upper Mississippi Flood Control Association's authorized projects is as follows:

1. SOUTH QUINCY DRAINAGE AND LEVEE DISTRICT FLOOD CONTROL PROJECT

It is a pleasure to report that due to the cooperative efforts of all concerned; the U.S. Congress; the Corps of Engineers; the State of Illinois; The City of Quincy, Illinois; and the local sponsor and industries; this local Flood Control Project is nearing completion. A fine work it is.

The project is fully funded and should be completed by this fall, 1990.

The final current estimated construction costs are:

Federal Costs at 75% ----- $7,155,000
Non-Federal at 25% ------- $2,385,000

2. THE GREEN BAY LEVEE AND DRAINAGE DISTRICT NO. 2, IOWA, FLOOD CONTROL PROJECT

The Green Bay Levee and Drainage District No. 2, Iowa, Flood Control Project remains dormant due to lack of Federal funding.

May we be forgiven for once again repeating. This Project after running the gamut of approximately nine years of study, dredging demonstration projects, inter-State and Federal Agreements, a C.O.E. design study or Survey Report based upon a 200 year flood frequency protection, was recommended for construction. The Board of Engineers of Rivers and Harbors during review recommended that the protection be increased to a 500 year flood frequency design.

The administration found that a 500 year design was not appropriate for Agriculture areas and questioned the proposed protection to the large Fertilizer Plant within the District.

It is our understanding that in the Corps of Engineers Cost-Benefit analysis, benefits were not taken for probable damages of chemical spills into the River due to a levee failure.

The Drainage District, has no serious objection to reverting back to the original design and cost basis of a 200 year frequency flood protection project, but agrees with the analysis of the Board of Engineers for Rivers and Harbors that a 500 year design is cost effective.

It is the feeling of local landowners that the large Chemical Plant which is now closed down due to the depressed agricultural segment of the economy, could be disregarded in evaluating the cost/benefit ratio. It could well be that the District without the Chemical Plant could stand on its own merit.

Our Association is concerned over the status of this flood control project, due to its dormant stage and lack of funding during the last four years. We understand that projects which do not receive funding through appropriation bills within five years are to be automatically deauthorized. If our information is correct, this could be November 1, 1991.

Continuing Planning and Engineering funds for FY 91 might develop justification for a closer look at the feasibility of the project. At least another look might prevent the total loss of the great amount of Federal, State and Local costs incurred and spent to date.

The C.O.E. has expressed a capability of $200,000 for Continuing Planning and Engineering for FY 91. The Landowners are anxious to keep the project alive and hope that some funds can be found to initiate Planning and Engineering Design (PED).

The Drainage District realizes that if Congress provides funds not included in the President's FY 91 Budget, some other recommended project must be reduced. If the project cannot be funded this year, then FY 92 is the District's last opportunity unless the time period for deauthorization can be extended or exempted. Please give consideration.

The District has agreed to fund its 25% cost sharing provision of the "Water Resources Development Act of 1986, P.L. 99-662".

3. THE MUSCATINE ISLAND LEVEE DISTRICT, MUSCATINE-LOUISA COUNTY DRAINAGE DISTRICT NO. 13, IOWA, AND THE MUSCATINE CITY-MUSCATINE ISLAND DISTRICT

This project report is under review in the Chief's Office, U.S. Army Corps of Engineers and other Federal offices. Final design should be completed in April of this year, 1990. The LCA (Local Cooperative Agreement) should be completed in April, 1990. We further understand that the delay is largely due to a modification of design from a 500 year flood frequency design to a 200 year design.

No construction funds are needed until the review is completed. This project has been basically stalled for three years. Should the ongoing Review be completed by late spring or early summer, it might be possible to initiate construction in FY 91 providing Congress would authorize and appropriate the necessary funds. We realize that the Corps of Engineers has expressed "no capability" for FY 91. However, if the review is completed early this spring, we respectfully request an appropriation of $650,000 to initiate construction. We urge your Honorable Committee to check with the Corps of Engineers.

The following projects are under study.

SPECIAL STUDIES

1. MARION COUNTY DRAINAGE DISTRICT, MISSOURI

The Marion County Drainage District, Marion County, Missouri, a member of our Association, has a small watershed project under study, authorized under Section 205 of the Flood Control Act of 1948, as amended. The Act provides authority to the Chief of Engineers to approve and construct such projects if they are economically justified and the cost does not exceed a specified amount. The Drainage District has been unofficially notified that the study will be negative. On that basis, the Marion County Drainage District is proceeding with a Soil Conservation Service (SCS) project whereby small siltation and retention reservoirs are to be constructed in the hill-land watershed. This alternate solution is well underway.

2. SNY ISLAND LEVEE DRAINAGE DISTRICT, ILLINOIS

The Sny Island Levee Drainage District has under study the review of completed projects (R.C.P.), namely the Diversion of Horton and Dutch Creeks directly into the Mississippi River in lieu of the Dutch-Horton Creek Reservoir or in conjunction therewith and other completed works.

The Corps of Engineers is proceeding under Section 205 of the 1948 Flood Control Act as amended in its study.

Local interests are very anxious for the completion of this study and a successful resolution of the problem. The Drainage District has agreed to participate in cost sharing as per current recommendations P.L. 99-662.

In addition to the specified Dutch-Horton Reservoir Diversion Channel Study, the Corps has been asked to make a Reconnaissance Survey of the Upper Main Stem Levee to ascertain if it is feasible to upgrade this portion of the Levee to afford additional protection to the Village of Hull, Illinois and the new multi-million dollar Central Illinois Expressway now under construction which traverses part of the District at flood plain elevation.

3. COMMENTS

During the past several years, members of our Association continue to express concern over river bank erosion. When the Upper Mississippi River Navigation System was constructed in the 1930's, it was our Association's view, and still is, that the then existing private levees became a part of the Navigation System, all tied closely to the economic welfare, human lives, recreation, and environment of the entire region. As the years have passed, the Mississippi River in its natural meandering action has tended to erode certain bank areas until some long existing levees are becoming endangered. Our Association believes 'a stitch in time saves nine'.

It is hoped that a means can be developed whereby the Corps of Engineers will have the authority and necessary funding to repair such eroded areas before a levee break occurs or subsequent remedial action becomes very costly.

The Corps of Engineers has been apprised of our Association's concerns and are cooperative in seeking a solution.

Our Association recognizes that bank erosion problems, if fully addressed, could become a major costly nationwide endeavor. However, there would appear justification for paying special attention to the Upper Mississippi River Navigation System.

One major justification being that many of the Upper Mississippi River Lock and Dams are anchored in levees on both sides of the river, which levees were originally constructed entirely with local funds by the Drainage Districts and other public and private parties.

There seems to be a Federal perception that since the Federal Government strengthened the existing levees from Hamburg Bay to Guttenburg, Iowa under the 1954 Flood Control Act and similar acts, and the Drainage Districts signed assurances that the Districts would operate and maintain the levees in accordance with the dictates of the Secretary of the Army of the U. S. Government, the responsibility of shoreline protection, as it relates to the levees, rests on the shoulders of the Drainage Districts.

The Districts feel that assuming the responsibility of keeping the River in its channel is beyond the scope of the intent of the Federal Levee Improvement Assurance Agreements.

In that belief, the Districts are attempting to have legislation enacted giving the Corps of Engineers the Authority and funding to take remedial action. Our Association had hoped to have such legislation before Congress by this date.

If such legislation becomes a reality, we respectfully request your Honorable Committee and or members thereof to give enactment serious consideration.

It is a privilege to present this testimony.

SUBCOMMITTEE RECESS

Senator **DeConcini**. We will be recessed until 10 a.m. tomorrow morning.

[Whereupon, at 3:31 p.m., Tuesday, March 27, the subcommittee was recessed, to reconvene at 10 a.m., Wednesday, March 28.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1991

WEDNESDAY, MARCH 28, 1990

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:05 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Mark O. Hatfield presiding.

Present: Senator Hatfield.

NONDEPARTMENTAL WITNESSES

HEARING PROCEDURE

Senator HATFIELD. The subcommittee will please come to order.

I want to welcome each of you to this hearing today. We have a large number of witnesses who wish to be heard. Therefore, in accordance with notification I believe that each of you received, it will take some time restraint on the part of everyone to hold oral testimony to a minimum in order that all of you who have requested an opportunity to testify may be heard.

I ask that the detailed prepared statements that each of you has worked out carefully be submitted for the record where they will be carefully reviewed. And then, if each witness will summarize or highlight the important points of your statement, it would be most helpful.

I am privileged to chair this morning, in lieu of Senator Bennett Johnston of Louisiana, the chairman of this subcommittee, and long-time associate, colleague, close friend.

And, over the years, as chairman of the full Appropriations Committee, I chaired this subcommittee for 6 years, Senator Johnston was then ranking minority member. And then we reversed that particular role, and whether, as the ranking minority member or as the chairman, we worked very closely. And I am very honored that he has permitted me to chair this hearing this morning.

The first person who has taken his seat is a good colleague from New York State, Congressman George Hochbrueckner. And he has his constituents with him.

Mr. Congressman, if you will proceed as you may wish, and introduce us to your constituents for the record. We are very happy that you are here. And I know how busy you are over on the House side, and obviously your presence gives us a very strong message of the high priority you place on this project that you are here to present this morning.

SHINNECOCK INLET, NY

STATEMENT OF HON. GEORGE J. HOCHBRUECKNER, U.S. REPRESENTATIVE FROM NEW YORK

Mr. HOCHBRUECKNER. Thank you very much, Senator. I appreciate your kind words. And we will certainly be reasonably brief and to the point.

I am here for two purposes today. First, to thank this subcommittee and certainly the Senate, last year, for in fact recognizing an important problem that we have on Long Island, and helping us in the first step of resolving that problem.

Now last year, we came before this body requesting $5.3 million for the dredging of the Shinnecock Inlet, and I am very pleased to say that the House and the Senate did provide the $5.3 million so that the dredging of the Shinnecock Inlet on the eastern end of Long Island will, in fact, begin over the next several months, based on the funding that was provided last year.

We are back again this year to request the second phase of the funding, which is a $3 million appropriation, for the purpose of rebuilding the two jetties associated with the Shinnecock Inlet. And certainly, the money, approximately $5.3 million of Federal money, and $2.3 million of State and local money, as I say, will be spent this year to dredge the inlet, making it a much safer place for our commercial and sports fishermen to pass through.

But obviously, that money would be wasted if we did not rebuild the jetties, which requires $3 million in this year's budget in order to secure the advances that we will make with the dredging.

So that is why we are here today. And I am very pleased to be accompanied by two very important constituents from my district on the eastern end of Long Island, Ricky Lofstad, who, in fact, is the owner and captain of a boat which sunk in the inlet due to the dangerous conditions that have existed there, and he would like to relate some of his experience. In fact, he almost drowned there with several other people.

And also, I am accompanied by Linda Kozofsky, who is one of the leaders of the Concerned Wives of the Shinnecock Fishermen, who has her own personal experiences to share with the subcommittee.

[The statement follows:]

STATEMENT OF CONGRESSMAN GEORGE J. HOCHBRUECKNER

Mr. Chairman and members of the Subcommittee on Energy and Water Development, thank you for the opportunity to testify today with my constituents regarding the need to continue funding for the Army Corps of Engineers' Shinnecock Inlet Project.

Let me begin by stating that the people of Long Island owe a considerable debt of gratitude to Chairman Johnston and the members of this Subcommittee for the relief that was provided last year in funding the Shinnecock Inlet Project. Your support means that the Army Corps of Engineers will begin dredging the Shinnecock Inlet this year.

Regrettably, the President has again eliminated the Shinnecock Inlet Project from his proposed federal budget. Although the Army Corps of Engineers supports the project and requested continued funding, the Office of Management and Budget disagreed. I cannot understand that decision. The Administration's position ignores the ongoing threats to life, property, and the fishing economy of eastern Long Island posed by the continued deterioration of the inlet.

The Shinnecock Inlet Project is designed to be a comprehensive program of dredging and jetty rehabilitation to provide for long term navigability. Many people consider jetty rehabilitation to be the most important component of the overall project. The New York District of the Army Corps reported to me last week that the inlet's jetties are rapidly deteriorating. Unless they are repaired, they will not be able to prevent the inlet from filling in with sand once the dredging is completed. Clearly, discontinuation or interruption of the project would ultimately cost taxpayers considerably more in maintenance costs.

Rehabilitation and extension of Shinnecock Inlet's jetties is scheduled to be accomplished over a 15-18 month period at a cost of approximately $6.7 million in federal funds. I understand that this is a considerable amount, and that this Subcommittee faces severe budgetary constraints in fiscal year 1991. Therefore, I respectfully urge that a minimum of $3 million for the Shinnecock Inlet Project be included in the fiscal year 1991 Energy and Water Development Appropriation Act to enable the jetty improvement portion of the project to commence. Of course, additional appropriations will be required in the future to complete the project.

You may be assured that New York Governor Mario Cuomo and Suffolk County Executive Patrick Halpin strongly support completion of the Shinnecock Inlet Project and are committed to providing all required non-federal funds for construction and long term maintenance.

Mr. Chairman and members of the Subcommittee, I thank you again for the $5.3 million in federal funds provided last year and I appeal to you to provide the $3 million needed this year for the Shinnecock Inlet Project. I appreciate your sensitivity to this very important issue. I would be happy to answer any questions you may have.

ADDITIONAL SUPPORTING WITNESSES

Floyd Carrington, Shinnecock Marlin and Tuna Club
John Scotti, Cornell Cooperative Extension
Arlene Lofstad, mother of Rick Lofstad
Valerie Scott, mother of Elizabeth Pell
Ruth Scarborough, Concerned Wives of Shinnecock

Mr. **Hochbrueckner**. So, with that, I would like to surrender the lion's share of the time to Ricky and to Linda.

Ricky Lofstad.

Senator **Hatfield**. Thank you. I am happy to welcome you here, Mr. Lofstad. And would you please proceed.

STATEMENT OF RICHARD LOFSTAD, PRESIDENT, SHINNECOCK FISHERMAN'S COOPERATIVE ASSOCIATION

Mr. **Lofstad**. Thank you, Mr. Chairman. Again, our whole community would like to thank the subcommittee for their wise decision to dredge Shinnecock last year.

Some of you may be asking why I am here again. I am here because the second phase of the same Shinnecock Inlet project has been omitted from the Army Corps' budget for fiscal year 1991. My community has asked me not to find out why, but to rather ask your committee to appropriate the Federal share of the funds to complete the project you started.

Specifically, money to complete the jetty rock stabilization work, after the already funded dredging work, $10 million worth, is completed.

For me, the bad news about the incomplete inlet project is for 30 years I have been promised that the inlet would be maintained. I bought my 70-foot *Evening Prayer* in 1987, with the promise that 1989 would finally be the year it would happen.

Then, funding was left out of President Reagan's last budget proposal, our first setback. Then our community organized an effort to inform the Government how critical the inlet situation was.

Meanwhile, my two crew members and myself almost lost our lives in that inlet, grounding our 70-foot *Evening Prayer* in October 1988. The second setback.

After gathering my thoughts, I decided to wait to reinvest in another boat, pending the outcome of the community's lobbying effort toward securing the funds to dredge Shinnecock.

Amazingly, State, Federal, and local governments announced that Shinnecock Inlet would be dredged and stabilized. The money was appropriated. It was great news.

Believing in the American system, I trustingly bought a larger 80-foot vessel, based on the fact that the inlet would be stabilized. Finally, the 1991 budget came out, and no money for the second phase of the Shinnecock Inlet. Our third setback.

Mr. Chairman, our family and many other families' hearts are full of fear with the thought that we very well might have another accident that we might never escape from. I feel very deceived.

In addition to the human factor, with regard to the inlet, now I would like to address the financial absurdity surrounding the Government's investment here. The combined Government investment in Shinnecock is now close to $10 million, without any funds to stabilize or complete the job, although a 50-year maintenance dredging was attached to ensure a deep channel.

The question you may be asking is, will not the channel fill in much faster without the jetty work? The answer is yes.

The first example, the county dredged a 200-foot wide emergency channel in 1989, and within 4 months it filled in. In fact, the University of Florida study on Long Island Sound south shore inlets confirms the need to build jetty systems and to stabilize them.

In conclusion, those of us who live, use, and work in the inlet feel that by only dredging the inlet as provided in phase 1, without the jetty phase completed immediately as the proposed Army Corps' general design memorandum for the Shinnecock Inlet project, it is a glaring and cruel example of an old adage, penny wise and dollar foolish.

Make our day. Please complete this job.

Mr. HOCHBRUECKNER. Mr. Chairman, now I would like to present Linda Kozofsky, a leader in the Concerned Wives of the Shinnecock Fishermen.

[The statement follows:]

STATEMENT OF RICHARD LOFSTAD

Remember me? I am the man who lost his 70' stern trawler in the shoal at the Shinnecock Inlet in Long Island, New York. I testified before you last year, about this same time, to ask you to appropriate starting funds to stabilize and dredge the Shinnecock Inlet. You and your colleagues wisely chose to prioritize this project, funding it, a new-start project in tough budgetary times. Our entire community thanks you!

However, you may be asking why I am here again. I am here because the second phase of the same Shinnecock Inlet Project has been omitted from the Army Corps' budget for Fiscal Year 1991. My community has asked me not to find out why, but rather to ask your committee to appropriate the Federal share of the funds to complete the project you started. Specifically, money to complete the jetty (rock) and stabilization work after the already funded dredging work - $10 million worth - is completed.

For me, the bad news about the incomplete Inlet Project is deja vu! For thirty years, we have been promised the Inlet would be maintained. I bought the 70' *Evening Prayer* in 1987 with the promise that 1989 was finally the year it would happen. Then, funding was left out of President Reagan's last budget proposal - Setback #1. Immediately, our community organized an effort to inform government how critical the Inlet situation was. Meanwhile, my two crew members and myself almost lost our lives in the Inlet, grounding and sinking my 70' vessel the *Evening Prayer* in October, 1988 - Setback #2. After gathering my thoughts, I decided to wait to re-invest in another boat pending the outcome of the community's lobbying efforts towards securing the funds to dredge Shinnecock. Amazingly, federal, state and local governments announce that Shinnecock Inlet would be dredged and stabilized! The money is appropriated! Great News!

Believing in the American system, I trustingly bought a larger 80' fishing vessel, based on the fact that the Inlet would be stabilized. Finally, the 1991 budget comes out and, no money for the second phase completion of the Shinnecock Inlet - Setback #3. Mr. Chairman, my family's, as well as many others' hearts are full of fear that we very well might have another accident that we might never escape from! I feel so deceived.

In addition to the human factor, with regard to the Inlet, I will now address the financial absurdity surrounding the government's investment here. The combined government investment in Shinnecock now is close to $10 million without any funds to complete the job, although a fifty-year maintenance dredging was attached to ensure a deep channel. The question you may be already asking is, "Won't the channel fill in much faster without the jetty work to stabilize it?" The answer is yes. Example: The county dredged a 200' wide emergency channel and within four months, it had filled in. I equate this scenario to building a home. A new home owner and a builder agree to build the new home. Construction goes as scheduled until the end. The builder informs the owner that they do not have the money to finish the roofing shingles. However, the builder says not to worry, his insurance company promises to replace any destroyed furnishings in the event it rains.

In conclusion, those of us who use, live and work daily in this Inlet, feel that if by only dredging the Inlet as provided in phase one, without the jetty phase being completed immediately as proposed in the Army Corps General Design Memorandum for the Shinnecock Inlet project; is a glaring and cruel example of the old adage "penny wise/dollar foolish" -- make our day and complete the job!

STATEMENT OF LINDA KOZOFSKY, PRESIDENT, CONCERNED WIVES OF SHINNECOCK FISHERMEN

Ms. KOZOFSKY. Thank you.

Mr. Chairman, last year a wife and mother of a Shinnecock fisherman sat before this very same committee and spoke these words about the Shinnecock Inlet: Wicked water all around, evil, wicked, mean, and deadly. People die here.

These words still ring true.

My name is Linda Kozofsky, and in 1984 I organized the Concerned Wives of the Shinnecock Fishermen. The purpose of this organization is to see that Shinnecock Inlet becomes a safe and navigable waterway for all to use. It has taken 6 years of phone calls, letter writing, and petitioning to reach the point of last year, where we thought we had succeeded.

You, Mr. Chairman, and your committee, unanimously approved the Shinnecock Inlet project for a new start in last year's budget. We will always be eternally grateful knowing that the Federal Government was finally accepting the responsibility of maintaining this vital waterway.

It is extremely unfortunate that this decision was just a few months too late to prevent the three deaths that have occurred in Shinnecock Inlet's treacherous waters. Even more tragic to me is that the first person to die was my brother-in-law.

One month after this grave loss was the grounding and sinking of Rick Lofstad's vessel. My son was a crew member on board with Rick. And although he survived, he will always carry with him the fear and the emotional scars of that night.

One of the most convincing statistics of the successful lobbying efforts of last year is the fact that millions of dollars generated through Shinnecock Inlet is spent outside the State of New York. A large concentration of those dollars is being spent in the southern States of Alabama and Louisiana.

My son is presently fishing on the newest vessel in port, a 90-foot, $800,000 vessel, built, bought and paid for in the State of Alabama. Although many States reap the benefits generated by Shinnecock Inlet, the deaths and damage only occur to the unsuspecting vacationers, recreational boaters, and to the commercial fishermen of our community who must transverse the deadly waters on a daily basis.

ADDITIONAL FUNDING IMPERATIVE

As Rick has pointed out, the $10 million already appropriated and spent on the Shinnecock Inlet project will be an incomprehensible amount of wasted tax dollars should the jetty reconstruction portion of the project not be funded immediately, not next year or the year after. Not to mention that, without rebuilding the jetties, there will be nothing to prevent the deadly waters from returning soon after the dredging work is complete.

The fear that my family and many others have of losing a loved one or our livelihoods will return along with the wicked waters.

Mr. Chairman, please choose to fund this project through its completion. In doing so, you will help to eliminate our fears and let our fishing industry prosper. My husband had taught our son many things about being a fisherman. But there is one question he cannot answer since the loss of his brother in 1988. What can he say to his only son when asked: Will I survive a second time?

And our question is: Will he?

Thank you.

[The statement follows:]

STATEMENT OF LINDA J. KOZOFSKY

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Mr. Chairman, please choose to fund this project through its completion. In doing so, you will help to eliminate our fears and let our fishing industry prosper.

My husband has taught our son many things about being a fisherman, but there is one question he can not answer since the loss of his brother. What can he say to his only son, when asked..."Will I survive a second time?" Will he......survive?

UNCERTAIN BUDGET ENVIRONMENT

Mr. HOCHBRUECKNER. Thank you, Mr. Chairman. And we would be happy to answer any questions that the subcommittee might have.

Senator HATFIELD. Thank you very much, Congressman. I think your statement and that of your two constituents have been very helpful. You have certainly focused upon the great need and I want to say that not only were we supportive last year, we expect to be supportive again this year.

We always have to operate within the constraints of what the budget resolution will allocate this subcommittee for appropriating to these various and sundry projects.

I want to say that I have a personal empathy for the project that you represent, because it is so similar to many along the Oregon coast. And those who have come this morning to also testify for these projects really mean the difference between life and death.

And unfortunately, the evidence has piled up on the death side, too many times before we have addressed the fundamental needs to preserve life. And so I want you to know you have a total empathetic hearing from this committee.

And I believe I speak for all of my colleagues on this subcommittee, if we can get a budget resolution past the Congress, and if we can then find out what our 302(b) will be, allocated amongst the 13 subcommittees of the appropriations committee, we will be able to give you a little bit better picture than we can this morning.

But certainly your evidence is overwhelming and your justification is clear. And I appreciate very much your taking the time to come here and represent your district, and also to bring your two very eloquent witnesses.

And I believe you have some others.

Mr. **Hochbrueckner**. Yes; we have other representatives from Long Island who came down.

Senator **Hatfield**. Why do not you introduce your other constituents for the record, so that we will have a clear record of their attendance?

Would they stand up, the Shinnecock delegates? We will get the names from each of you.

Thank you very much for taking the time to come here this morning.

Mr. **Hochbrueckner**. Thank you, Mr. Chairman. And again, we thank you for your support last year, and we thank you for your sensitivity to our plight this year.

Senator **Hatfield**. Thank you.

All right. Now we will turn to the projects in Oregon.

First, Port of Portland, Mr. Robert Woodell, the executive director of the Port of Portland. I invite you to testify. I have your written statement, Mr. Woodell, and that will be placed in the record, and your summary statement, which is also excellent, and you may proceed to handle your testimony as you wish.

Columbia River Navigation Channel Deepening

STATEMENT OF ROBERT L. WOODELL, EXECUTIVE DIRECTOR, PORT OF PORTLAND, OR

Mr. **Woodell**. Thank you. Good morning, Senator.

I am Bob Woodell. I am the executive director of the Port of Portland. But today I am here to represent not only the Port of Portland, but six other ports on the lower Columbia. In Oregon, the Ports of Astoria and St. Helens. And in the State of Washington, the Ports of Kalama, Longview, Vancouver, and Woodland.

In the interest of time I will make my remarks as brief as I can and summarize here. Before I begin, though, I would like to express the appreciation from the Port of Portland and all the other ports on the lower Columbia for the strong support that this committee has shown. Most recently it has been in funding the new lock at Bonneville Dam. But certainly, over the years, this committee has shown a lot of support for keeping our river system healthy and alive.

To continue that river systems development and keep it competitive, the seven ports that I am representing this morning are asking you to put $1.2 million in the fiscal year budget of 1991 from the Energy and Water Development appropriations bill. This would fully fund the feasibility study to investigate improving the channel from the 40-foot depth to 45 feet on the lower Columbia, from the ocean to Portland and Vancouver.

The feasibility study, we believe, needs to proceed without interruption so that construction of the project can be completed before the end of the decade. Vessels are already calling our ports and are sailing deeper than what the channel was originally designed. And we have installed some creative processes to try and help maximize the channel. But the ships that are on the drawing boards now require even deeper drafts, and we will need a deeper channel if we are going to accommodate those.

Failure to deepen the channel will really, we think, not only hurt the Pacific Northwest, but hurt the Nation. Our river, the Columbia River, is the economic artery for our region, but we are also a net export gateway to the world markets.

The request that we are making this morning is really just a continuation of 100 years of cooperation between the lower Columbia River ports, the Corps of Engineers, this committee, and the Congress. It began in 1890 with a study to try and take a look at deepening the channel to 25 feet. And it continues today with the 40-foot channel, and the Bonneville locks, and the river system that extends 465 miles inland, all the way to Lewiston, ID.

Investing in the Columbia River has been a bargain for the Federal Government, we believe. Both the 40-foot channel and the 55-foot bar were built on budget. And the maintenance of dredging is substantially less than what was anticipated, and the ships are, in fact, carrying more cargo at a deeper draft than was anticipated.

We think it is a success story with the Federal Government and the Pacific Northwest, the Corps, and the local ports, and we believe that it is more than just the cost/benefit formulas that are involved here. We believe the real benefit on this is a human benefit. And there are real people and real jobs involved in this in the Pacific Northwest. And this is critical to continued success for the economy.

I would close with the observation that I believe the real beneficiaries of this request are for our children and grandchildren. This will really allow us to be competitive on into the next century. And we think it is critical for our region.

This positive view, we believe, of the growing economy in the Northwest, really can only happen if these study phases are really continued without interruption.

Thank you very much, Senator. And I will be happy to answer any questions.

[The statement follows:]

Statement of Robert L. Woodell

Good morning Mr. Chairman and members of the committee, I am Bob Woodell, Executive Director of the Port of Portland, Oregon. Today I am also representing six other lower Columbia River ports in Oregon and Washington.

I am here on behalf of these ports to voice our appreciation for the strong support this Committee has shown over the decades as the Columbia River system has developed, and to request that you include full funding for a channel deepening feasibility study in the 1991 Energy and Water Development Appropriations bill.

In my testimony, I will provide additional details about our funding request, and I will describe the shipping and cargo trends that lead us to the inescapable conclusion that a deeper channel is needed on the Columbia River, if U.S. products exported via our river system are to compete in the next century.

SEVEN PORTS IN TWO STATES

I am before you today as the representative of the seven deep-draft ports located on the main navigation channel of the lower Columbia River. Besides the Port of Portland, these ports include, in Oregon: the Port of Astoria and the Port of St. Helens; and in Washington: the Port of Kalama, Port Longview, the Port of Vancouver, and the Port of Woodland. In 1988, more than 2,300 ocean going ships carrying 36 million tons of cargo valued at 11.6 billion called at the private and public facilities located at these ports. This continued a 20-year trend that has seen cargo volumes double on the lower Columbia River.

FEASIBILITY FUNDING REQUEST

We have a single request: Full funding in the fiscal year 1991 Energy and Water Development Appropriations Bill of the federal government's share of the feasibility study to investigate improving the existing 40-foot navigation channel in the lower Columbia River by increasing its depth to 45 feet.

Thanks to the work of this Committee last year, the reconnaissance phase of this investigation is fully funded and is under way. It is scheduled for completion at the end of this calendar year. We are requesting full funding of the feasibility study in this year's bill in order to obtain uninterrupted work flow of the study process, and to assist us in securing the non-federal share of feasibility study costs.

Under the Water Resources Development Act of 1986 and its accompanying regulations, costs of the feasibility study are to be shared equally by the federal government and non-federal interests. The total estimated cost of the study is $2.4 million. The Administration included $100,000 in its fiscal year 1991 Corps budget request for start-up of the feasibility phase. We, therefore, are asking the Committee to approve the Administration's request and an additional $1.1 million to fully fund the federal government's share of the study. This will make our task of securing the non-federal match easier, by indicating the federal government's commitment to this project, and highlighting the fact that the non-federal share would be the only hurdle before the project moves ahead.

NATION NEEDS COLUMBIA RIVER EXPORTS

The ports I represent, the communities they serve, and the economy of the Pacific Northwest need this feasibility study, and the channel improvements we are confident it will recommend. A navigable river system is the only way the products from our region and beyond will continue to remain competitive on world markets. Economies of scale already are bringing larger, deeper draft vessels into the Columbia River. All indications are that this trend will continue.

We know of only one way to meet this demand and keep products in the Pacific Northwest and our hinterlands competitive. That is to build and maintain a navigation channel that can handle the larger vessels in use today and on order for the future. Otherwise, the Pacific Northwest, long known for its forests and agricultural abundance, and now also known as an emerging high-tech center, could be left barren, as its economic lifeblood, the Columbia River, becomes less and less competitive internationally. Given our continuing trade deficit, we must not allow this nation to be without the strong, net-export system we enjoy on the Columbia River.

A 100-YEAR PARTNERSHIP

Let me now turn to a brief history of the Columbia River's navigation system—the 100-year partnership between the federal government and local interests that have built it, and the creative ways we have all found to make sure it is used to its full capacity.

In 1890, the Portland District, U.S. Army Corps of Engineers, completed a study defining the work needed to provide a 25-foot channel from Astoria to Portland. A year later, in 1891, the Port of Portland was created by the Oregon Legislature, for the sole purpose of dredging the 25-foot channel. The Corps' District Engineer was authorized to serve as a consultant to the Port, and was completed in 1893. Thus, the Port of Portland, the Corps and Congress through this Committee have had a century-long constructive partnership.

Over the years, this partnership has seen successful authorization and construction of two more channel improvements: deepening to 35 feet, completed in 1950; and construction of the existing 40-foot channel, dedicated in 1973.

BENEFITS OF AN INTEGRATED SYSTEM

The main lower Columbia River navigation channel is one part of a total system. The main channel serves as the system's gateway, accommodating the largest, ocean-going vessels. But those of us on the lower river never forget the importance of the lock and dam system on the river's upper reaches. That this system exists, and is being improved today, is testament to the wisdom and foresight of this Committee and the Congress.

In all, eight locks and dams extend the upriver barge system 465 miles inland to Lewiston, Idaho. This system was completed in 1975, and by the end of that decade, had exceeded all cargo volume projections for the year 2000.

In addition to critical flood control, one purpose of these dams and attendant locks is to serve navigation, allowing tugs and barges to carry products up and down the river. Other benefits include providing water for irrigation and generating electrical power for the region. In return, crops—often irrigated with water from these same federal reservoirs—and some manufactured goods are moved by barge to lower Columbia River ports where they are loaded on ocean-going vessels and shipped to world markets. It's truly an integrated system.

This interdependence binds Lewiston, Idaho, to Kalama, Washington, and Astoria, Oregon. It ties the farmers and ranchers in Eastern Oregon and Washington, or in Idaho and Montana, to the longshoremen and shipping clerks at our lower Columbia River ports.

Most recently, this Committee has demonstrated its recognition of this relationship, with its approval of funding for the new Bonneville Lock. The new lock will remove a bottleneck in river navigation and allow more efficient use of the entire lock system.

MAXIMUM CAPACITY THROUGH INNOVATION

Just as we are pleased to see the upriver lock system exceeding projected cargo volumes, we are just as proud of the work we have done on the lower river to obtain maximum utilization of the existing 40-foot channel. The reconnaissance study, and our request today for the federal share of the feasibility study funding, are not premature. The existing channel is reaching its capacity, and ships are moving safely due to some creative actions we have taken.

In addition to the 40-foot channel, the lower Columbia River is also served by a federally authorized 55-foot channel at the mouth of the river (know as "the bar"). The 40-foot channel and the 55-foot bar have been remarkably successful projects. They were built on budget, maintenance dredging has been far less than predicted on both projects, and tonnage and ship size have exceeded projections by substantial margins. This has been accomplished through a "real time river level reporting system," known as LOADMAX, that was initiated by the ports and completed with the cooperation of the Corps and the National Weather Service of NOAA.

LOADMAX has allowed the seven deep-draft ports on the lower Columbia River to achieve the impressive cargo volumes I mentioned earlier: 2,300 vessels served in 1988, with 36 million tons of cargo valued at $11.6 billion. The river system has historically been dominated by grain and forest product exports reflecting the resource based economies of Oregon, Washington, Idaho, and the hinterland states to the east. In recent years, containerized cargo and automobile imports, as well as miscellaneous bulk exports, have become important additional components of lower Columbia River international trade.

LOADMAX was conceived in 1983, when Peavey Grain Company was completing an export elevator at the Port of Kalama, Washington, and needed 39-foot sailing drafts to load Panamax ships to 50,000 metric tons to be competitive in certain Asian feed grain markets. The lower Columbia River ports proposed the idea of a real time river level reporting system, including the concept of a predictive river level model. After initial work on the concept was completed by the ports, the federal agencies came forth and, in cooperation with the ports, compiled the hardware and software systems making up the present LOADS system. The system has been a success and, vessels are using it to sail regularly at freshwater drafts up to 39 and 40 feet, even with the innovative LOADMAX system, however, we have reached the maximum capacity of the existing river channel. A deeper channel is needed now.

LOOKING AHEAD TO THE 21ST CENTURY

Between 1967 and 1988, cargo tonnage on the lower Columbia River doubled. At the same time, ship size and draft increased, allowing fewer vessels to haul increasing volumes of product from the Northwest and Midwest. This trend will continue.

Given the trend in ship sizes, time requirements, and the complexities involved in a channel improvement project, our competitive position in world trade will be jeopardized without timely construction. We think the reasons are compelling:

- Panamax bulk carriers are moving out of Portland, Vancouver, Kalama, and Longview at drafts of up to 40 feet, using LOADMAX and relying on fresh water discharge.
- Typical Panamax designs call for fresh water drafts of around 42 feet to get the full cargo carrying capacity of the ship, usually around 55,000 metric tons. As the lower Columbia River remains dominant in the West Coast grain and feed grain export markets—for example, one-third of U.S. wheat exports are shipped from the Columbia/Snake Customs District—there will be continuing demand for this type of ship to move fully loaded with minimum delays. Although the grain business has been depressed in recent years, the

long-term outlook is favorable. Lower Columbia River inland transportation advantages (rail and barge) will continue to favor our river over Puget Sound for grain exports.

- Portland, Vancouver, and Longview all are deeply involved in nongrain bulk cargo movements. These commodities increasingly rely on Panamax vessels.
- Although container ships seem to have stabilized at around 38-foot design drafts, it is apparent the Columbia River channel is right at the limit, given the dominance of outbound cargo and the tendency for these ships to sail from Portland at maximum draft. Other container ports (Oakland and Tacoma, for example) are attempting to deepen 35-foot project depths to the 43- to 45-foot range to accommodate existing ship calls, as well as those expected in the future. The coincidence of the demand from bulk carriers and container ships alike is favorable for the economics of the project.

CONCLUSION

In conclusion, Mr. Chairman, we believe we represent a success story where the federal partnership of Congress and the Corps has been developed with local ports for a wise investment in our region. In our past, in our current operations, and in our future, everyone has benefited. The relationships between and among the various parts in this system-the dams, the channels, the ports—have strengthened over the years.

When a witness talks about benefits before this Committee, some budget specialists immediately think of various cost/benefit formulas used by the executive and legislative branches to evaluate water resource projects. We welcome that analysis, but we also rank high in the other benefit well known to members of this Committee.

I refer to human benefits, measured in people's lives. These past projects, and the channel deepening we hope you will support, are tied at their core, to people. As elected officials, you have met with your own constituents, whose lives have been enriched by wise federal investments in our national water resource management.

I can cite real jobs resulting from improvements in the Columbia River, from the channel to the dams. Individuals and communities can look forward to a better life as a result of these federal investments. As a public official, I never forget that we are in business to serve the people in our port districts and our region.

I close with the observation that the people who will enjoy the regional benefits of our deepened channel include today's young people, our leaders in the 21st century. This project will help propel our region into the new century, with the knowledge that wise investment decisions were made in a timely manner. It will preserve our precious resource, the mighty Columbia River, as the economic centerpiece of our continued growth well into the next century. This positive view of the future can only become a reality if the study phases of this project are funded and completed without interruption.

Thank you.

NATIONAL ECONOMIC BENEFITS

Senator HATFIELD. Thank you, Mr. Woodell. That was excellent testimony.

Mr. Woodell, members of this committee and our counterpart over on the House side have recognized from the years of involvement that these river basins, like the Mississippi, the Missouri, and the Columbia, are truly enormous national resources, even though perhaps some look upon them as only regional arteries.

I have heard in the past the figures that have been raised about how much of the Nation's wheat passes through the Columbia River basin and would be affected by the channel deepening proposal. Could you give me any update on those figures? I believe I heard that percentage reflected in terms like one-quarter or one-fifth.

Mr. WOODELL. Senator, it is actually larger than that. It is one-third of all the wheat in America that is exported goes out through this river channel. And, in fact, the ships that carry that wheat would probably be the first beneficiaries of a deeper channel.

Senator **Hatfield**. And at a time when this Nation is suffering from a trade deficit, these agricultural products serve not only as the economic advantage to help try to balance those trade deficits, but they also produce the food fiber for sustaining life in areas of the Pacific, particularly, where there are so many poverty-stricken and hungry people. Is that also true?

Mr. **Woodell**. That is correct, Senator.

Senator **Hatfield**. So there is an economic, political, and social value that is hard to always compute in a cost/benefit ratio calculation.

Mr. **Woodell**. That is correct; and we are very proud of that. Again, we are a net export region, and we help feed the world.

Senator **Hatfield**. Mr. Woodell, on this second question I would like to touch on, this is one of those cost-sharing projects, 50/50. And I note that you have asked for the full Federal funding of $1.2 million in the first year of what is to be a 2-year study.

Mr. **Woodell**. That is correct.

Senator **Hatfield**. Now is this in part because of the fact that the Oregon Legislature that must approve of local funding meets every other year, and therefore you are expecting them to produce the full local 50 percent in the January session coming up in 1991? Or why is the up-front full Federal funding asked for?

Mr. **Woodell**. Senator, that is basically the reason. The local funding would be shared between the Oregon and Washington sides. All the ports and the various States have agreed to that, that in some way it will be split.

But, yes, the Oregon Legislature meets every other year, and that session comes up this next year. We have also already talked to some of the legislators and they are quite receptive so far on this. And so we are optimistic that we could get this approved in the next session of the Oregon Legislature.

Senator **Hatfield**. Let the record show that the executive director of the Port of Portland is also accompanied by Mr. Steven Nausen, who now has employment in that port, but more importantly, was a former staff member of the chairman of the subcommittee this morning.

Welcome, Steve.

Thank you.

OREGON COASTAL PUBLIC PORTS

At this time, I would like to invite Wilbur Ternyik, president of the Port of Siuslaw, and chairman of the Coastal Zone Management Association along with others who may be accompanying him to the table.

Mr. Ternyik, would you introduce, please, your colleagues for the record. And I want to welcome each one of you here this morning.

Mr. **Ternyik**. Yes, Mr. Chairman. On my right I have Ellie Dumdi, commissioner from Lane County, OR; Jim Rice, port commissioner for the Port of Siuslaw, Lawrence, OR; Don Bacon, port manager at Garibaldi; and Jack Madison who is the commissioner from the Port of Tillamook; and in the back of the room in support of what we are requesting here today is Rick Baker from the ports division of the State of Oregon.

Senator **Hatfield**. We will get those names for the record.

Was there another gentleman sitting in the back row there trying to look inconspicuous? Is he a part of your crew, too?

Mr. **Ternyik**. I do not know whether Walt wants to be introduced or not.

Senator **Hatfield**. Yes; Walt Evans.

Mr. **Ternyik**. Yes.

Senator **Hatfield**. We are happy to list him along with the other distinguished visitors from Oregon.

Mr. **Ternyik**. I will summarize my statement.

Senator **Hatfield**. And Steve Crow, is he back there as well? Oh, he is in the next panel. I like to keep track of all these former staff people. [Laughter.]

Thank you, Mr. Ternyik, for presenting your friends and others.

OREGON COASTAL PORTS MAINTENANCE DREDGING REQUIREMENTS

STATEMENT OF WILBUR E. TERNYIK, PRESIDENT, PORT OF SIUSLAW, OR

ACCOMPANIED BY:

- JIM RICE, COMMISSIONER PORT OF SIUSLAW, OR
- ELLIE DUMDI, COMMISSIONER, LANE COUNTY, OR
- JACK MADISON, COMMISSIONER, PORT OF TILLAMOOK
- DON BACON, MANAGER, PORT OF GARIBALDI

Mr. **Ternyik**. My name is Wilbur Ternyik and I am president of the commission of the Port of Siuslaw, OR, and chairman of the maintenance dredging committee of the Oregon Coastal Zone Management Association, Inc. [OCZMA].

OCZMA is an association of 36 units of local government consisting of several coastal counties and soil and water conservation districts, coastal cities, and ports.

We are here to support the Corps of Engineers fiscal year 1991 budget request for $8.399 million for operation and maintenance dredging of all of Oregon's 14 coastal ports, including the Corps' commitment of 2 weeks' dredging by the hopper dredge *Yaquina*, at the Chetco River, Port of Brookings Harbor.

I am also submitting for inclusion in the record a letter from Oregon's Governor Neal Goldschmidt to Senator Mark Hatfield, dated March 19, 1990, supporting the continued Corps maintenance dredging of all Oregon coastal ports. His leadership in setting this State policy has been instrumental in bringing back Oregon's coastal economy from near depression conditions of the early and mid-1980's.

Continued Corps maintenance dredging is vital in sustaining this economic recovery.

Currently, the maintenance dredging committee of OCZMA, Inc., in cooperation with the Oregon Ports Division, is working to identify and analyze short- and long-term solutions associated with possible future budgetary constraints.

All Oregon coastal ports are participating in this effort. This study effort, prompted by Senator Mark Hatfield, was funded by the ports division of the Oregon Economic Development Department.

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Senator **Hatfield**. And at a time when this Nation is suffering from a trade deficit, these agricultural products serve not only as the economic advantage to help try to balance those trade deficits, but they also produce the food fiber for sustaining life in areas of the Pacific, particularly, where there are so many poverty-stricken and hungry people. Is that also true?

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Senator **Hatfield**. Mr. Woodell, on this second question I would like to touch on, this is one of those cost-sharing projects, 50/50. And I note that you have asked for the full Federal funding of $1.2 million in the first year of what is to be a 2-year study.

Mr. **Woodell**. That is correct.

Senator **Hatfield**. Now is this in part because of the fact that the Oregon Legislature that must approve of local funding meets every other year, and therefore you are expecting them to produce the full local 50 percent in the January session coming up in 1991?

Or why is the up-front full Federal funding asked for?

Mr. **Woodell**. Senator, that is basically the reason. The local funding would be shared between the Oregon and Washington sides. All the ports and the various States have agreed to that, that in some way it will be split.

But, yes, the Oregon Legislature meets every other year, and that session comes up this next year. We have also already talked to some of the legislators and they are quite receptive so far on this. And so we are optimistic that we could get this approved in the next session of the Oregon Legislature.

Senator **Hatfield**. Let the record show that the executive director of the Port of Portland is also accompanied by Mr. Steven Nausen, who now has employment in that port, but more importantly, was a former staff member of the chairman of the subcommittee this morning.

Welcome, Steve.

Thank you.

OREGON COASTAL PUBLIC PORTS

At this time, I would like to invite Wilbur Ternyik, president of the Port of Siuslaw, and chairman of the Coastal Zone Management Association along with others who may be accompanying him to the table.

Mr. Ternyik, would you introduce, please, your colleagues for the record. And I want to welcome each one of you here this morning.

Mr. **Ternyik**. Yes, Mr. Chairman. On my right I have Ellie Dumdi, commissioner from Lane County, OR; Jim Rice, port commissioner for the Port of Siuslaw, Lawrence, OR; Don Bacon, port manager at Garibaldi; and Jack Madison who is the commissioner from the Port of Tillamook; and in the back of the room in support

We again extend our sincere appreciation for this committee's careful examination of our budget request for Federal funding that allows the coastal ports of Oregon to realize the benefits that accrue as a result of earlier channel and jetty improvement projects approved by this committee.

We firmly believe that the system Congress uses to fund these coastal projects is working well and should be continued in the future.

And, Senator, I would like to add one thing. We would like to go on record saying that we really would like to commend the Portland District of the Corps of Engineers for addressing special problems such as we have mentioned in some of the accompanying letters that we would like to have included in the record from the other ports and counties, addressing specific problems, and still working within their budgetary constraints. And we greatly appreciate that.

That is all.

[The statements follow:]

STATEMENT OF WILBUR E. TERNYIK

Mr. Chairman, my name is Wilbur Ternyik. I am President of the Commission of the Port of Siuslaw, Oregon and Chairman of the Maintenance Dredging Committee of the Oregon Coastal Zone Management Association, Inc. (OCZMA) OCZMA is an association of thirty-six (36) units of local government, consisting of the seven coastal counties and soil and water conservation districts and coastal cities and ports. I am accompanied here today by Siuslaw Port Commissioner Jim Rice; Commissioner Ellie Dumdi, Board of Commissioners of Lane County, Oregon; Commissioner Jack Madison, Port of Tillamook Bay, Oregon; and Don Bacon, Port Manager, Port of Garibaldi, Oregon.

We are here to support the Corps of Engineers' Fiscal 1991 budget request for $8,399,000.00 for Operation and Maintenance dredging of all Oregon's fourteen (14) coastal ports, including the Corps commitment of two weeks dredging by the hopper dredge, the *Yaquina*, at the Chetco River, Port of Brookings Harbor.

I am also submitting for inclusion in the record a letter from Oregon's Governor Neil Goldschmidt to Senator Mark Hatfield dated March 19, 1990, supporting continued Corps maintenance dredging of all Oregon coastal ports. His leadership in setting this state policy has been instrumental in bringing back Oregon's coastal economy from the near depression conditions of the early and mid 1980's. Continued Corps maintenance dredging is vital in sustaining this economic recovery.

Oregon's coastal public ports provide one of the largest sources of economic enterprise and recreational opportunities for coastal counties and communities, as well as safe and effective passage of waterborne commerce to the open ocean and Pacific Rim. This is emphasized in our Governor's testimony when he states, "Throughout my term I have worked to encourage creation of new jobs outside Oregon's metropolitan centers, as I know you have in the Congress. Corps dredging is one of the few services that the Federal government realistically can provide that offers economic hope to these smaller coastal communities. If the Corps creates unreasonable thresholds for these communities to meet in order to qualify for maintenance dredging, the decline in smaller coastal harbor communities—in Oregon and elsewhere—will be hastened."

Currently, the Maintenance Dredging Committtee of OCZMA, Inc., in cooperation with the Oregon Ports Division, is working to identify and analyze the short and long-term solutions associated with possible future budgetary constraints. All Oregon coastal ports are participating in this effort. This study effort, prompted by Senator Mark Hatfield, was funded by the Ports Division, Oregon Economic Development Department.

We again extend our sincere appreciation for this Committee's careful examination of our budget request for Federal funding that allows the coastal ports of Oregon to realize the benefits that accrue as a result of earlier channel and jetty improvement projects approved by this Committee. We firmly believe that the current system Congress uses to examine and to fund these coastal projects is working well and should be continued in the future.

Thank you.

STATEMENT OF GOV. NEIL GOLDSCHMIDT OF OREGON

On March 28, 1990, the Subcommittee on Energy and Water Development will be accepting public testimony on the U.S. Army Corps of Engineers fiscal year 1991 O&M budget. Over the past several years, I have voiced my concerns on the importance of maintenance dredging for the Oregon coastal ports, as well as the Columbia River. I will continue to reiterate that a Federal decision not to dredge these ports is a decision to close them to further economic activity. As I travel up and down the coast and meet with community leaders, I also am told again and again how much they value your ongoing contributions to enhancing their local economies through convincing the Corps to continue maintenance dredging.

A strong FY 1991 Corps commitment to maintenance dredging in the Corps budget is important so that our state's coastal dredging needs can be met. I certainly am aware of the budgetary pressures under which you and your colleagues on the Appropriations Committee must approach the spending needs of this nation. Competing claims for a fair share of the FY 91 budget far exceed what reasonably can be provided. Tough choices lie ahead for the Congress. Your personal commitment to reorder national spending priorities is one with which I think most Oregonians agree. Appropriations in the military budget not vital to insuring an adequate defense is money that could be used to revitalize our state's infrastructure.

Throughout my term, I have worked to encourage creation of new jobs outside Oregon's metropolitan centers, as I know you have in the Congress. Corps dredging is one of the few services that the Federal government realistically can provide that offers economic hope to these smaller coastal communities. If the Corps creates unreasonable thresholds for these communities to meet in order to qualify for maintenance dredging, the decline in smaller coastal harbor communities—in Oregon and elsewhere—will be hastened.

At this hearing, I also hope that several new projects that are in the planning phases, such as the Coos Bay and the Columbia River channel deepening projects, will be supported with the necessary planning dollars. These new projects will be vitally important to Oregon in our efforts to continue to develop our port infrastructure. International trade is important to Oregon and is represented by the fact that we have a positive trade balance with our commodity flows. If we are to continue to be competitive and a contributor to solving the national trade deficit, these projects will be critical.

In this letter, I have chosen to look at the impact of curtailing existing maintenance dredging or new project work in the Federal budget, rather than to examine each port-specific amount and assessing its adequacy. You will hear directly from our fellow Oregonians on the specific budget numbers as they impact on their own port. Instead, I have chosen to stress the impact on Oregon coastal communities, and on the rest of our state, if maintenance dredging is curtailed even more. It is difficult for people in OMB and in the Corps to look at spending issues in a framework broader than their specific budget numbers. In this case, however, I hope you can convince them of the importance of dredging in a broader context. You have my support in this effort.

Thank you for your consideration of my views on this important issue to our state. I hope these comments will be a part of the official hearing record.

STATEMENT OF CURRY COUNTY, OR, BOARD OF COMMISSIONERS

This statement is to record our support and understanding for the Corp of Engineers proposed program to provide necessary and adequate annual maintenance dredging of the southwestern Oregon navigation projects on the Metcol Rogue and Coquille Rivers, and at Port Orford, in fiscal year 1991 at a level of dredging of the fiscal year 1990 program.

While there is a difference in the fiscal year 1991 Civil Works Budget Request to congress for funding of Operation and Maintenance of the Chetco and Port Orford projects from the congressionally appropriated funds for these two projects for fiscal year 1990, it is our understanding that the Portland district will provide the normally scheduled dredging of these two projects in fiscal year 1991 based of course, on need.

Since congressional budget additions or directions were necessary in recent years for adequate maintenance dredging of the Rogue and Coquille rivers and Port Orford project, we have asked acknowledgement and confirmation of the Portland district's proposed dredging program for fiscal year 1991.

STATEMENT OF TILLAMOOK COUNTY BOARD OF COMMISSIONERS

The Tillamook County Board of Commissioners supports the testimony of OCZMA for the purpose of obtaining funds for the current plan to dredge the channel in Garibaldi harbor, in Tillamook County, Oregon.

Our sparsely populated county needs the funding for this project to aid in enhancing the fishing industry, thereby upgrading the economy of Tillamook County and, in a small way, the economy of the State of Oregon.

Thank you very much for your consideration.

STATEMENT OF DAVID TILLEY, COMMISSIONER, PORT OF PORT ORFORD, OR

Greeting from the beautiful south coast of Oregon. My name is Dave Tilley, and I represent the Port of Port Orford, one of 14 coastal ports. On behalf of the residents of our district, I respectfully request that the Congress keep Port Orford and the other ports open by approving C.O.E. proposed budget request for $8,399,000.00 for Operations and Maintenance dredging for Oregon coastal ports. This budget includes $105,000.00 for winter contract dredging and a commitment from the Portland District Commander to provide the dredger "Sandwick" in order to keep Port Orford dredged to its authorized depth of 16' in the summer time.

The tax and social security returns generated by port activity make the dredging investment in Oregon ports by the federal government substantially gainful. However, this gain could be easily be turned into a tremendous assistance obligation were dredging to be discontinued.

Additionally, the timber industry is suffering because of the lack of supply, and therefore, the commercial fisheries provide one of few ways that an able-bodied man or woman can earn a living in coastal Oregon. These fisheries are currently thriving, and need to be supported.

The Port of Port Orford is working with the Oregon Coastal Zone Management Association and the Oregon Economic Development Division to develop long-term solutions to coast-wide shoaling problems, and are confident that solutions can be found.

Additionally, the Corps of Engineers and the Port of Port Orford are currently working together on environmental studies designed to develop a less expensive and more efficient alternative to the current dredging methods, whether it be the construction of an east jetty, a sand-by-passing system, fluidization or jetty removal.

Thank you for your capable help in the past help and for allowing me to make these statements to you.

Senator **HATFIELD**. Thank you.

Ms. Dumdi.

Ms. **DUMDI**. Thank you, Mr. Chairman.

I am Ellie Dumdi, Lane County commissioner. And the Port of Siuslaw is within my district. It is extremely important for the economy of our small coastal ports that this dredging be maintained. And we certainly appreciate any consideration that you can give to these projects.

Thank you very much.

Senator **HATFIELD**. I need not say that you certainly represent some of the unique assets and services of our State in the small coastal ports, which are very important not only to the local economy, but to the whole State, in terms of the uses made of these ports.

And also, I would observe that, probably out of all of the hearings that I participate in here in Washington, yours is the most succinct, poignant, effective, to the point, testimony that I hear. And I am always grateful for the modicum of words, but the power of your presentation and the commitments that you represent to those ports.

I also think the record should note that this is the first year in many years that the President of the United States has recognized the importance of operation and maintenance of our smaller ports, and I take note of the fact that President Bush did include in this year's Presidential budget moneys for these projects.

And I think we ought to encourage the President at any time to make these requests, because the Congress always add them to the budget, because we know the importance of these ports.

Again, as I said to the witnesses from New York State, we face the unknown together here this morning as it relates to the budget. The enthusiasm and support for these projects are well known to you and they continue. And I also want to take note of the strong leadership of Governor Goldschmidt of the State of Oregon, that he has given to port development.

So you represent, I think, very enlightened leadership here in the local and in the State when you come to present your testimony.

CONGRESSIONAL BUDGET PROCESS

But, as I say, we face the unknown because of not knowing exactly what the budget resolution will permit this committee. I need not go through a tedious process that not all Members of the Congress understand. And that is the process of how moneys are allocated to 13 separate subcommittees of the Appropriations Committee that deal with many agencies, each of these subcommittees and a multitude of accounts within those agencies.

If you take the Commerce, State, and Justice Subcommittee, which is just one committee, you not only have the allocations that mean that one committee competes against the other committee amongst the 13, but then, within the committee, you have the State Department, you have the Justice Department, and you have the Commerce Department, all with many subdivisions and accounts. And they compete within a committee's allocation.

So we are hard put to try to predict at this point just where we will come out.

I might say, historically, this subcommittee has taken the biggest hit of any of the 13 subcommittees of the Appropriations Committee in the reductions that have occurred between the agencies' request to the President's request to the reductions to meet the deficit targets of Gramm-Rudman-Hollings, and on and on and on. It is a very tedious, as I say, complicated process.

This is one of the things that I do not think we ought to export to the emerging democracies of Eastern Europe, and that is our budget process. It would set their revolution back, I am sure, 20 years.

But, nevertheless, we will struggle within the context of this budget process to uphold our commitment to keep these ports viable and keep these ports safe. And perhaps with the drug interdiction aspects of our Government's commitment today, we can use that as well to leverage the dollars required for the other uses of the port, and especially for the safety of all.

Thank you very much for your presentation.

Now, I am happy to invite the Northwest Power Planning Council. Mr. Tom Trulove, our chairman, and Mr. James Goller, our vice chairman.

"Dr." Steve Crow, would you care to come to the table?

One thing that the staff of my office always learns very early—that is humility. [Laughter.]

COLUMBIA AND SNAKE RIVERS FISH BYPASS FACILITIES

STATEMENT OF TOM TRULOVE, CHAIRMAN, NORTHWEST POWER PLANNING COUNCIL

ACCOMPANIED BY JAMES A. GOLLER, VICE CHAIRMAN, NORTHWEST POWER PLANNING COUNCIL

Mr. **TRULOVE**. Thank you, Mr. Chairman.

Appearing with me today is Jim Goller, vice chairman of the council. In order to conserve time, Mr. Chairman, I will submit my full statement for the record.

The primary focus of our testimony today is on the Corps of Engineers' budget for fish bypass facilities at the Federal dams on the Columbia River and the Snake River systems.

There is a critical need to reduce salmon and steelhead mortality as these young fish migrate down river on their way to the ocean. To do this, the Corps must install new and improved juvenile fish bypass systems at the Corps dams. These bypass systems divert fish away from the deadly turbulence and pass them around the dams.

In doing so, we substantially cut fish kills at the dams, and thereby partially restore the magnificent runs of salmon and steelhead that we once had.

FISCAL 1991 BUDGET REQUIREMENTS

For the first time in recent history, the administration's budget request for 1991 includes funding for some of the modifications that are needed at the mainstem dams. The 1991 budget includes $14.8 million to continue construction of bypass facilities at four dams—Lower Granite, Little Goose, Lower Monumental, and McNary.

The council strongly supports the proposed budget for these projects.

As you know, these funds for bypass facilities would be appropriated to the Corps of Engineers and would be fully repaid with current interest rates over the life of the facilities by ratepayers in the Pacific Northwest.

In other words, the appropriated funds would be reimbursed to the U.S. Treasury by the region through Bonneville electric rates.

Mr. Chairman, the 1991 budget marks a dramatic change in budget priorities for these fish facilities, but it still does not include funds for a new bypass at two of the Corps dams, Ice Harbor and The Dalles. Instead, the budget proposes to abruptly terminate these projects for at least 2 years, while another expensive study of fish migration is underway.

Rather than stopping key activities in such a wasteful way, we believe that a total of up to $5 million should be added by Congress to continue work at these two projects. As outlined in our written statement, funds added to the budget request would continue ongoing activities which were funded in previous years, and would continue progress on fish facilities at these two dams.

Continued progress on bypass facilities and other fish mitigation measures is critical to the region. We must enhance our efforts to rebuild the fish runs, particularly the native stocks which have been damaged by hydropower development.

Through continued progress, we may be able to avoid or at least minimize the disruption caused by lawsuits or extreme measures generated by the Federal Endangered Species Act. And I must say that we appreciate very much your efforts on this topic by trying to make sure the region takes an active and informed approach to dealing with these issues of declining runs. Without that help, I think it would be much more difficult in the Northwest, and we stand ready to be part of any solution that we can work out.

So, we urge the subcommittee to add funds for fish bypass facilities and to include the same kind of clear direction in the appropriations process as provided last year, in order to ensure the obligation of funds for these vital activities.

BPA REPAYMENT POLICY AND CONSERVATION RESOURCES

Next, let me comment very briefly on the budget proposal for the Bonneville Power Administration. As you know, Bonneville is the primary implement of the council's power plan and its fish and wildlife program. And as such, the council is very concerned about the current version of the 1991 budget request. The council strongly objects to the proposed changes in repayment policy, and the elimination of important tools, such as borrowing authority, which enable Bonneville to obtain important conservation resources and transmission equipment.

These changes would cripple Bonneville's ability to invest in least-cost conservation resources and to meet growing loads in our region. When Bonneville needs to acquire energy savings, it should be able to finance those investments by borrowing the money and paying it off over time with interest, the way any utility would finance the construction of any new powerplant.

Instead, this budget proposes to change the rules, and take away important tools the region must have to meet its energy needs. This switch in policy comes at a time when the region's energy needs are growing and new resources will be needed.

Conservation is our best resource buy, and we should not be penalized for trying to acquire energy savings, rather than more expensive generating resources.

Along these lines, Mr. Chairman, you had some report language added to the energy appropriations report, S. Rept. 101-378, which we have found very useful. We have been working with that language in Bonneville. And Bonneville has decided to change their plans in fiscal year 1991 and beyond, based upon higher load growth being experienced in the region.

And, quite frankly, that report language has been very helpful in generating that debate in the Northwest. And we think we are on the way to achieving a least-cost energy path with conservation investments.

That makes it all the more important for Bonneville to have the authority to borrow and take care of their part of this endeavor.

So, in closing, thank you for giving us this opportunity to testify on the Federal budget proposals. We very deeply appreciate your leadership in energy and natural resource issues, and the careful consideration which you always give to the issues and needs of the Northwest.

[The statement follows:]

STATEMENT OF TOM TRULOVE

Mr. Chairman and members of the subcommittee, my name is Tom Trulove, and I am chairman of the Northwest Power Planning Council. The Council was authorized by Congress in 1980 and created as an interstate compact by the states of Idaho, Montana, Oregon, and Washington. Its purpose is to develop a 90-year regional electric power plan to ensure the Pacific Northwest an adequate supply of power at the lowest possible cost. The plan is designed to ensure that the region only acquires resources it needs and it acquires the least-cost resources first. The Council also was directed to develop a major program to rebuild fish and wildlife resources which have been harmed by hydroelectric development in the Columbia River Basin.

We appear today to present testimony on the fiscal year 1991 budget requests of four federal agencies. These agencies are the Army Corps of Engineers, Bonneville Power Administration, Bureau of Reclamation, and the National Marine Fisheries Service, which is within the jurisdiction of another appropriations subcommittee.

Our interest in these budgets stems from the fact that each of these agencies implements, funds, or regulates activities which are a part of the Council's Northwest Power Plan and Columbia River Basin Fish and Wildlife Program. Both the Council's power plan and its fish and wildlife program were developed under the mandate of the Northwest Power Act of 1980. In this Act, Congress provided direction and the framework for the Council as a policy and planning body to implement its actions through these federal agencies. The ability of these agencies to meet their objectives under the Act is tied directly to their funding levels and budget priorities.

CORPS OF ENGINEERS

The primary focus of our testimony this year, as it was last year, is on the need to reduce salmon and steelhead mortality as these young fish migrate down the Columbia and Snake rivers. To do this, the Corps needs to speed the installation of new and improved juvenile fish bypass systems at Corps of Engineers dams. For the first time in recent history, the Administration budget request to Congress includes funding for some of the modifications that are needed at the mainstem dams. The 1991 budget includes $14.8 million to continue construction of bypass facilities at four mainstem dams—Lower Granite, Little Goose; Lower Monumental and McNary. The Council strongly supports the proposed budget for these projects.

In addition to the construction funds, there is $1 million allocated in FY 1991 for the first year of a two-year $2 million analysis of juvenile fish mitigation for the Columbia River Basin. Because the purpose and scope of this analysis is not clear, the Council questions the need for starting another expensive study of bypass systems or other mitigation measures. This funding should be redirected to continue current bypass activities at two other mainstem dams—Ice Harbor and The Dalles as explained below.

Installation of bypass facilities at six mainstem dams is among the highest priorities in the Council's fish and wildlife program. Dams without screens to deflect fish away from their turbines will kill 10 to 30 percent of the juvenile fish at each project. Because fish go through a number of dams on their trip to the ocean, there is a significant cumulative loss. For example, if you started with 100 fish at the top of the Snake or Columbia River, over half would be killed due to turbine mortality by the time they got to the bottom dam in the system. We believe that these mortality levels can be cut in half if we install adequate bypass screens at the dams.

While these bypass systems are installed, spills of water over the dams must be used to enable juvenile fish to avoid the turbines and move downstream. This interim spill measure is not as effective in protecting fish as the bypass system and it causes Bonneville to lose revenue that could have been generated if the same water went through the turbines and produced electricity. The cost associated with spill can vary greatly depending on the value of electricity. In 1985, the cost was $27 million. The sooner that bypass systems are installed and working properly, the sooner we will improve fish survival and avoid the revenue loss from spilling water.

Representatives of the region's fish and wildlife agencies, Indian tribes, Bonneville Power Administration, utility groups, the Bureau of Reclamation and the Council met for 1½ years to negotiate an agreement to provide spill and/or mainstem passage improvements at four mainstem dams. The proposed agreement covers a 10-year period and would tie spill to a schedule for development of juvenile fish bypass facilities at Lower Monumental, Ice Harbor and The Dalles dams. Spill is to be provided while fish bypass facilities are being designed, tested and installed at these projects. The Council believes the spill agreement represents an important regional consensus on a difficult issue that has been contentious for many years.

Right now, the bypass facilities vary from dam to dam. Some are considered state-of-the-art. Others are obsolete. Still other dams have no bypass facilities at all. We need improved bypass facilities at Little Goose, Lower Granite, and McNary dams. We need new facilities at Lower Monumental, Ice Harbor, and The Dalles dams. These needs have been recognized by a coalition of fishery agencies, tribes, and utility groups. Bonneville Power Administration, the Pacific Northwest Utilities Conference Committee, the Public Power Council, the Columbia River Inter-Tribal Fish Commission, the Columbia Basin Fish and Wildlife Authority, and the Council all support the facilities.

As you know, the strong and consistent support of this subcommittee and the Congress has kept the fish bypass program alive over the last five years. During that period, Congress has added nearly $30 million for new and improved bypass facilities at six mainstem dams. These funds are being used for improvements in existing facilities, such as new fish barges and expanded moorage facilities, new fish loading and holding facilities, development and testing of longer turbine screens; and for the start of construction on a new bypass system at Lower Monumental Dam, which has no fish bypass facilities. Congress also provided funds for the design and development of new bypass facilities at Ice Harbor and The Dalles dams.

The 1991 budget made a dramatic change in budget priorities, but it still does not include funds for new bypass facilities at two Corps projects—Ice Harbor and The Dalles. Instead, the budget proposes to abruptly terminate activities at these projects for at least two years during the $2 million mitigation study. Rather than stopping key activities in such a wasteful way, we believe that a total of up to $5 million should be added by Congress to continue work at these two projects. Of the two, Ice Harbor is ready for final design and construction without further delay. A total of $2.5 million could be used at Ice Harbor with $600,000 needed to complete engineering plans and specifications. The Dalles requires continued funding to construct prototype extended screens and to design bypass facilities. Of the total $2.5 million, $300,000 is needed to perform model studies on a recently built model, $800,000 would be used to continue development of prototype screens, and $1.4 million would complete the General Design Memorandum. We urge the Committee to add these funds and include the same kind of clear direction in the appropriations process as provided last year in order to ensure obligation of funds for these vital activities.

BONNEVILLE POWER ADMINISTRATION

The Bonneville Power Administration is the primary implementer of the Council's power plan and fish and wildlife program. The Council has reviewed Bonneville's final budget proposal for fiscal year 1991. We have some serious concerns with the current version of the budget. The Council opposes the proposed changes in repayment policy and the elimination of important tools, including borrowing authority, which enables Bonneville to obtain important conservation resources and transmission facilities. These changes in the budget proposal would cripple Bonneville's ability to invest in conservation and generation. The region is now in load/resource balance and will need to acquire new resources to meet loads. We must continue to accelerate efforts to build conservation delivery capability in order to be ready to acquire this least-cost resource and avoid more costly, less environmentally desirable, thermal plants.

BONNEVILLE REPAYMENT

The Administration budget for 1991 includes an old proposal to alter Bonneville's approach to repaying its debt for construction of the region's hydropower system. Bonneville's repayment would be accelerated and the interest rates on unpaid debt would be allowed to vary from year to year.

If the proposal is adopted, Bonneville would need to pay an additional $590 million to the U.S. Treasury in 1991, in addition to the $653 million required under the existing repayment methodology. Bonneville estimates that the priority firm rate would increase 35 percent over current rates as a result of the proposed repayment policy. In addition, the Council estimates that residential and small farm customers could lose more than $150 million in benefits. These benefits currently accrue to utilities that exchange their power with Bonneville in return for the lower cost federal power sold to public utilities. The Northwest has 575,000 jobs that are affected by energy-intensive industries that depend on low cost power. Dramatic changes in Bonneville's repayment would put these jobs at risk and would severely damage the economy of the Northwest. The Council opposes this budget item and urges the Congress to again provide the leadership to drop this short-sighted proposal from the budget.

BONNEVILLE CONSERVATION

In the past, the Council has testified in support of adequate levels of borrowing authority and spending so that Bonneville could pursue a diversified energy conservation effort to build capability in all sectors of the region's economy. Such an effort would help ensure that cost-effective conservation resources would be in place when needed by the region and offset the need for more expensive generation resources. In addition, the Council has consistently emphasized that Bonneville conservation spending should focus on resource opportunities that would otherwise be lost if not obtained now—e.g., new buildings, where energy savings can only be obtained when the building is built and it would not be cost-effective to achieve savings by retrofitting the building at a later date. The Council continues to support needed funds to build capability for the future and to capture otherwise lost opportunity resources.

For next year, fiscal year 1991, Bonneville proposes to allocate $78.3 million for energy conservation as compared to $77.7 million in fiscal year 1990. This appears to represent approximately level funding of the conservation program. Within the total, however, the capital portion of the program, which is funded through Treasury borrowing, is cut by 60 percent from the current year from $41.6 million to $17 million. The fiscal year 1991 budget proposes to include these formerly capitalized activities as an operating expense and fund them through current revenues "to the extent possible." Because of the uncertainty of water conditions and other variables, revenues sufficient to fund these key activities may not be available. This could result in a substantial reduction of $25.2 million in the conservation program investment during a period over the next few years when the Council and Bonneville agree that conservation spending must be increased in order to prepare for increased electrical demand. In order to treat conservation as a resource in accordance with the Northwest Power Act, Bonneville's borrowing authority should be restored to enable the region to acquire least cost conservation resources.

BONNEVILLE FISH AND WILDLIFE

Bonneville has proposed an appropriate level of funding, $52.6 million, for fish and wildlife activities in fiscal year 1991. Bonneville, the Council and the Columbia Basin Fish and Wildlife Authority met in 1987 to develop levels of funding needed to implement the Fish and Wildlife Program. Agreement was reached on a planned level of 1990 and 1991 effort that is very close to the levels being proposed by Bonneville in the budget. The levels were determined by examining individual fish and wildlife program measures and estimating the cost of the measures. We urge the Congress to support the level proposed in the budget request.

BUREAU OF RECLAMATION

The Council has consistently identified the Yakima River Basin as a high priority for fisheries enhancement in the Columbia River Basin. We support the budget request for the Yakima fish passage facilities and for the Yakima water enhancement project studies.

On the other hand, no funds are requested in the fiscal year 1991 budget for construction on the recently authorized Umatilla Basin Project. The Bureau indicates that approximately $7 million of additional funding could be used to begin construction on the project. The Council supports additional funding forts construction project, arid the $25,000 included in the Bureau budget to continue the interim flow augmentation on the Umatilla River.

NATIONAL MARINE FISHERIES SERVICE

Although it is not in the subcommittee's direct jurisdiction, we would also like to comment on the National Marine Fisheries Service [NMFS] budget. The Administration once again proposes to eliminate appropriations for operating the Mitchell Act hatcheries. This includes 25 hatcheries that release over 100 million juvenile salmon and steelhead into the Columbia River system. Together, these hatcheries produce 50 to 70 percent of the salmon released into the Columbia River and represent a long-standing federal commitment to help alleviate the adverse effects of hydroelectric dams and other federal activities. The estimated costs for operating and maintaining these facilities is about $10 million for 1991. The Council joins the Northwest delegation in opposing these cuts.

Mr. Chairman, thank you for this opportunity to share our concerns with you. We deeply appreciate this subcommittee's past attention to the needs of the Pacific Northwest. I would be pleased to answer any questions.

PREPARED STATEMENT

Senator **Hatfield**. Thank you.

Mr. **Goller**. Thank you, Mr. Chairman.

If I might I would like to enter into the record a statement just given me by Mr. Al Wright. As you know, Al Wright is the executive director of the Pacific Northwest Utility Conference Committee, more commonly known as PNUCC.

PNUCC is a nonprofit corporation representing over 70 private and public utilities and energies that purchase electric power from the Bonneville Power Administration. Mr. Wright's statement generally parallels ours on the request and direction to the Corps, so I will not read it.

I regret that I do not have multiple copies, but maybe our assistant, "Dr." Crow, can find a place and give you copies of it.

I would appreciate that.

Senator **Hatfield**. It will be received in the record and placed in the record at this point.

[The statement follows:]

Statement of Al Wright, Executive Director, Northwest Utilities Conference Committee

Mr. Chairman and members of the Subcommittee, my name is Al Wright. I am the Executive Director of the Pacific Northwest Utilities Conference Committee (PNUCC). PNUCC is a nonprofit corporation representing over 70 private and public utilities and industries that purchase electrical power from the Bonneville Power Administration (EPA). PNUCC's purpose is to provide a forum for cooperative utility planning within the Pacific Northwest.

I am providing this testimony on the fishery protection measures in the U.S. Army Corps of Engineers' (Corps) budget for fiscal year 1991. PNUCC's interest is based on its members' support for the development and installation of mechanical fish bypass facilities at the Corps' hydroelectric projects on the mainstem Columbia and Snake Rivers. PNUCC supports the installation of these facilities because we believe these facilities are the only known cost-effective long-term solution to fish bypass problems at these projects.

Currently, the bypass installation program is proceeding successfully. This success is due in great part to Congress' involvement. Congressional support and funding has greatly helped the Corps, BPA, and the Council in the development of a solution to the bypass problems. Over the last five years, Congress has added about $30 million for new and improved bypass facilities at six dams. The vast majority of this

Congressional appropriation will be repaid to the U.S. Treasury by Northwest ratepayers. Congressional involvement in this complex and expensive issue has greatly benefited Northwesterners who depend upon the fisheries resources for their livelihoods. It has also assisted the Northwest electrical ratepayers in obtaining the most cost-effective fishery measures in a timely manner. Again, these are fishery measures that Northwest ratepayers will repay to the U.S. Treasury. PNUCC greatly appreciates Congress' continued interest and support in this issue.

The Northwest is also contributing other funds for the resolution of this problem. Northwest ratepayers provide approximately $200 million annually to the protection, mitigation, and enhancement of the fishery resources in the Columbia River Basin. This amount includes activities of the investor-owned utilities and public generating utilities as well as the extensive BPA program. Under the Pacific Northwest Power Planning Council's (the Council) Fish and Wildlife Program, the BPA ratepayers have funded numerous fishery mitigation and protection programs. Most of these programs are focused on increasing fishery production upstream of federal dams on both the Snake and Columbia Rivers. The Northwest utilities and ratepayers strongly support the installation of mechanical bypass facilities to protect and assure the success of the substantial investment Congress and the Northwest ratepayers are making toward rehabilitation of the upriver fishery resources.

In addition, the Council, BPA, utilities, the Bureau of Reclamation, fish and wildlife agencies, and Indian tribes have jointly committed themselves to the cooperative development and installation of bypass facilities at federal dams as soon as possible. The federal projects, Little Goose, Lower Granite, McNary, and Bonneville dams, need improvements in their existing bypass facilities. Lower Monumental, Ice Harbor, and The Dalles dams currently lack bypass facilities. The Corps has scheduled the completion of most of these projects in the early 1990s. These projects need funding now to remain on schedule. The regional parties are committed to support the installation of bypass facilities that achieve adequate fish protection at each project. We hope Congress will also continue its commitment in support of this program.

The Administration's budget request to Congress for fiscal year 1991 includes funding for bypass facilities at the Columbia and Snake River federal dams. The 1991 budget includes $14.8 million to continue construction of bypass facilities at Lower Granite, Little Goose, Lower Monumental and McNary dams. Along with other interested regional parties, PNUCC strongly supports this funding for these projects.

The Administration's budget also includes an additional $2 million for a two year study of juvenile fish mitigation in the Columbia River Basin. PNUCC is concerned that the study will provide few beneficial results since the purpose and benefits of this study are not clear. The funds could instead be more productively spent on bypass development programs at Ice Harbor and The Dalles dams. PNUCC urges Congress to reallocate these funds to bypass programs at Ice Harbor and The Dalles dams.

In addition, work at Ice Harbor and The Dalles dams has been postponed until the completion of a two-year mitigation assessment study. This postponement will only create wasteful delay. PNUCC suggests that not only should the Committee reallocate the funding for the mitigation assessment study to Ice Harbor and The Dalles, but also an additional $5 million needs to be appropriated for Ice Harbor and The Dalles bypass development. Ice Harbor bypass facilities are near completion and funding is needed for final design and initial construction. The Dalles requires continued funding to test prototype extended screens and to design bypass facilities. The additional funds are necessary to keep the bypass development at these projects on schedule.

Again, PNUCC appreciates Congress's continued support of these programs. PNUCC, along with other regional parties, is committed to the installation of the bypass systems and final solution of this mitigation problem. We urge Congress to appropriate the budgeted amount and suggested additional funds for the installation of the bypass systems.

Mr. Chairman, thank you for this opportunity for me to express PNUCC's concerns to you and the Subcommittee.

COST-EFFECTIVE ENERGY OPTIONS

Mr. GOLLER. I would be remiss if I did not thank you and this subcommittee for its efforts in the past, and particularly your efforts to have the administration include the fish bypass program in its budget. Without this subcommittee's efforts and your leadership on it, I fear that we would not be at the stage we are today. And I urge that this subcommittee allow us to go forward on that.

Thank you.

Senator HATFIELD. Thank you very much, Mr. Goller, for your kind remarks, and also Chairman Trulove.

Gentlemen, you mentioned this matter of the role Bonneville is playing in the field of energy conservation, and I hope that that language in last year's appropriation bill would have some effect. And I understand that Bonneville has moved to return to cost-effective energy conservation and the least-cost planning path, at least by the end of 1991.

I have even recently written a letter to Mr. Jurra, asking him to heighten that attention, and to implement programs at the earliest possible date in order to capture any available opportunities. I think of new construction that is happening so intensively in the Pacific Northwest, and how those various and sundry conservation technologies are being employed in the design and construction of all of that building, just as one small example.

And I suppose, in part, I must confess to you that I have urged this in a time when I hear too much rhetoric, from my perspective, about finishing the WHPPS nuclear powerplants. And I believe that, according to your data at least, that I last observed, those facilities still are not cost-effective, even thought they are 70-percent complete. And I really must say, I get a little uneasy when I hear Bonneville talk about so much of this matter, WHPPS plants.

I have said time and time again, keep out of it. As long as I sit on this committee, we are not going to fund anything that relates to those projects. But we are going to certainly reduce them as much as possible, whatever commitments we have had.

And so I just merely want to say that I am coming to this from a number of angles, and I am laying my cards all on the table. As long as I sit here, we are not going to see any development of nuclear power in the Northwest until we clean up the mess we have already created at Hanford.

I take that position whether it is in the Northwest or any part of this country.

One of these days a history will be written about the criminality of the way we handled nuclear waste or the way we have not handled it. And so I just want to say very clearly, as I have said to Admiral Watkins, and he fully appreciates and understands my perspective, why create more mess when we have such an endangered situation out of the existing mess?

And I feel that when we wrote this Northwest Power Planning Council Act, that it was to put on record in statute our commitment to conservation as equivalent to a new source of energy. And I just want to tell you how much I appreciate the council's role in pursuing that objective.

By the way, I never realized until I saw the Bonneville Power Administration's history that was written a few years ago, you read that book and it is utterly amazing how the politics, the economics, the social development of the Pacific Northwest revolves and is integrated into the history of Bonneville.

Now I am convinced there is an equal dramatic history that you are writing today, since your inception, and I am very hopeful that you will assign Steve Crow additional responsibilities, and that is to start keeping the notes and the records to write the history of the Northwest Power Council at some date down the road.

But it is amazing how these things slip out of even the recordkeeping that you have. And I remember in reading the Bonneville Power Administration history, how much of that history was out of oral history or people's involvement and recollections, not out of the records. It may have been the idea triggered out of the records, but the richness of that history came out of the memory and mind and the recollections of people.

So, consequently, I hope that you will build that record now for some historian down the road that you should select to show the history of this very unusual, very unique organization that you represent.

One last point, you have a dual responsibility, and you are fully aware of that, both by your testimony and by your record, and that is that I believe you are the only federally chartered organization whose true responsibility is both the power needs of the region and the fisheries resource which are of equal commitment and equal responsibility.

COLUMBIA RIVER ENDANGERED SPECIES ACT PETITION

And I appreciate your testimony this morning on the fish bypass and so forth.

Now, I had the opportunity to talk with you informally, but as you know, yesterday I made public my request that the Oregon Fish and Game Commission, and to NMFS, to pursue immediately a study on the petition offered by Bill Bacci and the Oregon Trout and other so-called conservation and environmental organizations.

I had made that request in consultation with Governor Goldschmidt because of the necessity of getting the biological data out here on the table as quickly as possible, and not have the pathway that we have already tread, with the ill-fated owl situation, as it relates to forestry in Oregon. I think once down that pathway is once too many times.

But, nevertheless, I think if we are going to look at this fish matter as it relates to the lower Columbia coho salmon and the upper regions of the Columbia and the Snake, as it relates to spring, summer and fall salmon runs, we have got to get a scientific analysis, a scientific base, upon which then to make public policy, so that it is not blown to and fro like the swinging in the wind of the political pressure groups and those who are moved to make political issues out of something that should be purely a scientific base.

At the end of this initial funding and data gathering of the fish agencies, and developing that scientific material, there is very obviously a role for the Northwest Power Council, the Bonneville Power Administration, the Corps, other Federal agencies, the Port of Portland, all the user groups, to begin to plug in to this process.

Now, I understand that some of these management reviews are currently within these agencies as an ongoing responsibility, such as your council. And I suppose what I would like for the record at this point is, could you summarize any of those ongoing management activities as it relates to the agencies that have some jurisdiction on the Columbia River?

Mr. TRULOVE. Yes; for about the past 1½ years, the fish agencies and tribes in the Northwest have been engaged in what we are calling subbasin planning. The council has funded, through Bonneville, an attempt to collect data and determine management strategies on the 31 subbasins of the Columbia River system that would show the alternatives for achieving the best biological result in those subbasins.

Even as we speak, those have been completed in draft form and are being molded into a system plan which will look at the Columbia River system as a system, and set some priorities for those individual subbasins.

So that process and work with the data has been ongoing and is about ready to be completed. We expect system planning to be finished some time this summer.

The council intends to use that to inform and update its fish and wildlife program, where I believe our intention is to put some emphasis on weakened stocks and try to set some priorities so that we can make sure that we restore the health of the river to the degree that we possibly can.

Mr. GOLLER. I might also point out, Mr. Chairman, there is an ongoing study just started by Bonneville, the Bureau of Reclamation, and the Corps. And they have invited the council to sit at the table with them. Chairman Trulove will be our representative in that. Which is a river management study, particularly which will end in an EIS on the management of the whole river system.

And it will particularly emphasize nonpower demands that are now being made on the river, such as reservoir levels, increased flows. And that, I think, hinges directly on the Endangered Species Act and the work of the council.

And I am pleased that they have invited the council to sit with them. I think this is an indication to these agencies, who sometimes like to go down the path by themselves, that you, Congress, created this council as a forum to set with these kind of things and see if we can have a consensus and a direction, not only from the Federal agencies, but the other interests.

So, I think between those studies, we should have some answers in the region, particularly in the fishery.

Senator HATFIELD. Could you get me those reports directly when they are available, any of these reports that you referred to? I would like to have them. We would like to have access to those, since I am so deeply involved in the whole fishing matter.

Mr. TRULOVE. Certainly. There are a number of volumes, so you might want to pick up an extra office to store them, but we will get them here.

Senator HATFIELD. I understand—just send me the summary.

Mr. TRULOVE. All right.

Senator HATFIELD. Thank you very much.

I would now like to invite Antone Minthorn and Elwood Patawa, and other members representing the Umatilla basin project, the Confederated Tribes of the Umatilla Indian Reservation.

I guess, Mr. Minthorn, you are the only representative this morning. You speak for many.

Mr. MINTHORN. Yes.

Senator HATFIELD. We are happy to have you here.

UMATILLA RIVER BASIN PROJECT

STATEMENT OF ANTONE MINTHORN, CHAIRMAN, GENERAL COUNCIL, CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

Mr. MINTHORN. Good morning, Mr. Chairman. My name is Antone Minthorn, and I am chairman of the General Council of the Confederated Tribes of the Umatilla Indian Reservation. And I am also appearing on behalf of Elwood Patawa, the chairman of the board of trustees of the governing body of the tribe.

The Umatilla people appreciate the opportunity to appear before you to support continued construction funding for the Umatilla basin project. For more than 70 years, the Federal irrigation project in the Umatilla River basin has periodically dried up the mainstem Umatilla River.

Migratory salmon, central to our people's economy and religion, were exterminated. This occurred despite solemn promises to the contrary to our treaty with the U.S. Government.

For more than 70 years, the tribe has been pitted against its nontribal neighbors in a desperate, losing struggle for economic survival. The U.S. Supreme Court has reaffirmed our treaty reserve rights to fish. This cleared the way for the tribe to ask the Federal Court to prevent the Federal irrigation project from drying up the Umatilla River.

There was a great deal of pressure on tribal government to do unto nontribal irrigators what had been done unto the Umatilla people. Instead, the tribe sought a constructive solution to the conflict created by the Federal irrigation project.

With congressional funding support, tribal and nontribal people of the Umatilla basin, for more than a decade, struggled to devise a constructive win-win solution. The Umatilla basin project is the result. Water pumped from the Columbia River will be provided to irrigators in exchange for Umatilla River water during critical periods of salmon and steelhead migration.

The project will allow restoration of tribal fisheries guaranteed by treaty. It will protect the nontribal agricultural economy. The tribe, the State of Oregon, and the regions ratepayers already have invested more than $11 million in local cost sharing. An additional $18 million in cost share has been obligated and these projects are now being designed.

Salmon have been restored to the Umatilla River. More than 5,000 adult fish returned in 1989. Increased numbers will return each year.

There is no money for the Umatilla basin project in the Bureau of Reclamation's fiscal year 1991 budget; $7 million are required for fiscal year 1991 to ensure the first phase of the project is operational in time to provide critical fish passage flows in the spring of 1992.

Mr. Chairman, the Umatilla people are painfully aware of the Federal budget deficit and the need to make prudent spending decisions. The Umatilla basin project is designed to remedy a 75-year-old debt. But it is more than that. The project is an investment in long-term economic productivity. It will yield long-term economic benefits to the local area, the State, the region, and the Nation.

Perhaps more important, the Umatilla basin project is a model of how tribal and nontribal people, working together in common cause, can redress problems of the past and create a better, more productive future for all citizens.

The people of the Umatilla River basin, the State of Oregon, and the region, have done their part. On behalf of the Umatilla people and our nontribal neighbors, I respectfully urge the Congress to add $7 million to the Bureau of Reclamation fiscal year 1991 budget for the Umatilla basin project.

The Umatilla Tribe appreciates this opportunity to appear before you today. That is all I have to say. Thank you.

[The statement follows:]

STATEMENT OF ANTONE MINTHORN

SUMMARY

FY '91 REQUEST

The Confederated Tribes of the Umatilla Indian Reservation respectfully request the addition of $7,052,200 to the Bureau of Reclamation fiscal year 1991 budget for the Umatilla Basin Project.

UMATILLA BASIN PROJECT

The Umatilla Basin Project is a water exchange project authorized by the 100th Congress. The project will pump water from the Columbia River to the federal irrigation project in exchange for an equal amount of Umatilla River water which will be left in the river during periods of anadromous salmon and steelhead migration. Costly, devisive tribal-nontribal conflict will be averted. Salmon runs and productive tribal and nontribal fisheries will be restored. The nontribal agricultural economy will be kept whole.

The project has two discrete phases. The first phase has a total cost of approximately $10 million, has independent utility, and can be completed by the spring of 1992. The second phase has a total cost of approximately $32 million and depending on availability of funds, could be completed by 1995-96.

COST/BENEFIT & LOCAL COST SHARE

The Umatilla Basin Project has a favorable benefit/cost ratio, 1.65:1. Anadromous fish benefits will accrue to Alaska, Washington and Oregon tribal and nontribal ocean and inland recreational and commercial fisheries.

The project is an integral part of an overall anadromous fish restoration program in the basin. Approximately 30% of total construction cost and more than 75% of total annual operation, maintenance and replacement costs will be local cost share.

More than $11 million (capital construction cost) in local cost share have been invested to date. An additional $13 million have been obligated in anticipation of complementary federal funding authorized by Congress.

STATUS

Congress appropriated $650,000 in FY 1990 to begin construction of the Umatilla Basin Project. These funds are being used to complete final design and prepare for issuing a construction contract for phase one of the project. The Bureau of Reclamation has stated it will not issue a construction contract until FY 1991 funding is assured.

There is no money for the Umatilla Basin Project in BR's FY 1991 budget. BR has expressed the capability to spend $7 million in FY 1991. This amount would advance construction to the point the project could become operational in time to provide critical fish passage flows in the spring of 1992. Design of the second phase of the project also would begin. An additional $52,200 is required to fund tribal involvement in the project during FY '91.

INTRODUCTION & SUMMARY

The Confederated Tribes of the Umatilla Indian Reservation respectfully request the addition of $7,052,200 to the Bureau of Reclamation fiscal year 1991 budget for the Umatilla Basin Project. The project was authorized for construction by the 100th Congress.

Congress appropriated $650,000 to begin construction in FY 1990. These funds are being used to complete final design and prepare a construction contract. The Bureau of Reclamation has stated it will not issue a construction contract until FY 1991 funding is assured.

There is no money in the Bureau of Reclamation FY 1991 budget for the project. The Bureau has expressed capability to spend $7 million in FY 1991. This amount would advance construction to the point the first phase of the project, which has independent utiltity, could become operational in early 1992.

More than $11 million (capital construction cost) in local cost-share have been invested to date and another $18 million obligated in anticipation of the complementary federal investment authorized by Congress.

BACKGROUND

The Umatilla Basin Project is designed to remedy serious, long-standing water use conflicts in the Umatilla River Basin. Contrary to the solemn promises of our treaty with the U.S. Government which specifically guaranteed the Tribe's on-reservation fishery, for more than 70 years the federal irrigation project in the basin seasonally has dewatered the lower reaches of the Umatilla River. Salmon runs critical to our peoples' social, economic and cultural well-being were exterminated. This has pitted the tribe against the nontribal community in a desperate struggle for economic survival.

Instead of turning to the courts for relief, a decade ago the tribe sought and received from Congress funds for the Bureau of Reclamation to help tribal and nontribal people of the basin find a constructive solution to the conflict created by the federal irrigation project. The Umatilla Basin Project, which would exchange water from the Columbia River for water presently being diverted from the Umatilla River, is the result of many years of effort and compromise. It is not the most desirable solution. It is a pragmatic, least-cost solution.

Unlike many tribal/nontribal water use conflicts elsewhere in the nation, we are fortunate there is an abundance of water to solve the problem in the Umatilla Basin. The Columbia River, fourth largest river in North America, flows past our doorstep. All that is required is to trade nontribal irrigators a small fraction of this water so they may leave a like amount of water in the Umatilla River during critical times of anadromous fish migration.

THE PROJECT

The project has two discrete phases. The first phase has a total cost of approximately $10 million, has independent utility, and can be completed by the spring of 1992. The second phase has a total cost of approximately $32 million and depending on availability of funds, could be completed by 1995-96.

The first phase of the project would allow periodic exchange of Columbia River water for Umatilla River water presently diverted at the lowermost major irrigation diversion on the main-stem Umatilla River. Completion of this phase will ensure safe passage of adult salmon and steelhead into the Umatilla River. Facilities already constructed as part of the local cost share allow adult fish to be collected and transported upstream for release when seasonally irrigation-depleted streamflows dictate. The need for collection and transportation will be greatly diminished upon completion of phase two of the project.

BENEFIT/COST

The United States' treaty obligations to the Umatilla Tribe notwithstanding, tribal and nontribal people of the Umatilla River Basin and the region worked hard to devise a win-win project that is cost-effective.

(1) **It has a favorable benefit:cost ratio**, 1.65:1, using a discount rate of 8 7/8%. This is based upon benefits analyses by the National Marine Fisheries Service and U.S. Fish and Wildlife Service in cooperation with the Oregon Department of Fish and Wildlife.

(2) **It has a large local cost-share.** The project is an integral part of an overall anadromous fish restoration program in the basin. Approximately 30% of th total program construction cost and more than 75% of total annual operation, maintenance and replacement costs will be local cost-share.

More than $11 million (capital construction cost) have already been invested and another $13 million obligated in anticipation of the complemer tary federal investment authorized in the Umatilla Basin Project Act by the 100th Congress. This includes:

(a) Major capital construction costs for fish passage and hatchery facilities;

(b) Providing the electric energy to run Umatilla Basin Project waterexchange facilities authorized by the 100th Congress.

(3) **It has widespread social and economic benefits.** The project will contribute an estimated 112,000 salmon and steelhead to tribal and nontribal fisheries throughout the Northwest. It will complement other federal and nonfederal investments in the region, including investments in fish passage facilities at federal mainstem Columbia River hydroelectric projects.

(4) **It will provide immedite return on investment.** Unlike most federal water-related projects, the Umatilla Basin Project will return immediate economic benefits to the Tribe, the local nontribal community, the region and the nation.

A substantial nonfederal investment has already been made in anticipation of the Umatilla Basin Project. More than 5,000 adult fish resulting from that investment returned to the Umatilla River in 1989. The first phase of the project would generate a substantial, immediate increase in fish returns and contributions to tribal and nontribal catches.

(5) **It will provide badly needed economic development opportunities** for the Umatilla Tribe, and badly needed economic diversification for local nontribal economies heavily dependent upon agriculture.

(6) **It will defuse the potential for costly, devisive litigation** between tribal treaty-reserved rights to fish and the federal government and participants in the federal irrigation project.

(7) **It has strong, unanimous support of an unprecedented coalition** of local, state, tribal, regional and national fisheries interests and local, municipal, civic and agricultural interests.

Status/FY '91 Funding Needs

Congress appropriated $650,000 in FY 1990 to begin construction of the Umatilla Basin Project. These funds are being used to complete final design and prepare for issuing a construction contract for phase one of the project. The Bureau of Reclamation has stated it will not issue a construction contract until FY 1991 funding is assured. If Congress adds FY 1991 construction funds to BR's budget, a construction contract could be let in late fiscal year 1990. This would assure phase 1 water exchange facilities would be operational in time to provide critical fish passage streamflows in the spring of 1992.

There is no money for the Umatilla Basin Project in BR's FY 1991 budget. BR has expressed the capability to spend $7 millon in FY 1991. This amount would advance construction to the point the project could become operational in time to provide critical fish passage flows in the spring of 1992. Following is the Bureau's breakdown in projected FY '91 expenditures if funds are appropriated:

Feature		Amount
Initiate construction - Phase 1 water exchange facilities		$5,820,000
Predesign activities - Remainder of project		230,000
Initiate design - Phase 2 water exchange facilities		500,000
Historical & archaeological activities		150,000
Lease/purchase of water rights		250,000
Servce facilities (office space, etc.)		50,000
	Total	$7,000,000

The Confederated Tribes seek to add $52,200 to the $7 million identified by the Bureau of Reclamation for FY 1991. Because the Tribe's rights are at stake, the Tribe must be intimately involved in project formulation, implementation and operation.

The project calls for a joint state, tribal, federal project operations group. In the interim, river and fisheries operations are placing ever-greater demands on limited tribal resources. As the Bureau begins construction on phase 1 facilities, initiates design of phase 2 facilities, and embarks upon water right lease/purchase, ever greater demands are placed on the Tribe for technical input and review, and for multi-agency coordination.

In past years the Bureau periodically has provided modest funding to support essential tribal involvement in the project. No funding was available in FY '90. The Tribe seeks $52,200 for the critical FY 1991.

CONCLUSION

The Confederated Tribes are sensitive to the current federal budget deficit and the need to make prudent budget decisions.

The Umatilla Basin Project will allow the federal government to redress the 70-year-old debt incurred as the result of the federal irrigation project dewatering the Umatilla River and eliminating treaty-guaranteed tribal fisheries. The project also will be an good investment that will enhance long-term economic productivity.

In sum, as Senator Hatfield stated in introducing the initial authorizing legislation, "...the Umatilla Basin Project presents the Federal Government a unique opportunity to meet its treaty obligations in a way which will turn a substantial economic profit to the local area, the region and the Nation."

The Confederated Tribes of the Umatilla Indian Reservation urge the addition of $7,052,200 to the Bureau of Reclamation's FY 1991 budget for the Umatilla Basin Project.

STATUS OF LOCAL PROJECT SUPPORT

Senator HATFIELD. Thank you very much, Mr. Minthorn. I want to thank you for your statement and also to say it is very clear.

I have no questions, only an observation. Earlier in this hearing we were talking about the endangered species that may exist now on the Columbia River. And that, of course, speaks to the shortcomings of our management in the past, or our efforts to maintain these runs in other ways.

This affects not just commercial fishing, but sports fishing and treaty obligations. But oftentimes I think we do tend to dwell on the negatives and the shortcomings that we are guilty of and have permitted to occur.

I would like to have the record reflect that the State and local interest groups that you represent, already invest up to I believe about $11 million in this project, that there are fish returning for the first time in 70 years on that river as a result of the initial beginnings of this project, is that not true?

Mr. MINTHORN. That is correct, Senator.

Senator HATFIELD. And so that also symbolizes not only what can be done to restore and what is being done to restore a particular fish, but also it augurs well for the future. Because with the completion of this project, I am sure that is going to continue to grow and escalate as a resource that once was enjoyed along that river.

Would you affirm that observation?

Mr. MINTHORN. I would agree with that.

Senator HATFIELD. Well, I want to commend you and your vision and your leadership and the people you represent for bringing this about. And certainly, within the confines of budgetary restraints to which I have already addressed remarks this morning, we will be very sympathetic to trying to complete this.

Having held field hearings 2 years ago in the State on this project, and having helped guide this project through the authorization committee, I feel very much akin to this project, and of course, committed to seeing it to its completion.

I would like to be there when the project is dedicated.

Mr. **Minthorn**. Yes, Senator, we have made tremendous progress from the time that this concept was conceived, up to where we are actually developing facilities to restore the fish runs to the Umatilla. And we are certainly grateful for that.

Senator **Hatfield**. Thank you, Mr. Chairman, for your presence here this morning.

Mr. **Minthorn**. Thank you, Senator.

GRAYS HARBOR, WA

STATEMENT OF CLIFFORD C. MULLER, EXECUTIVE DIRECTOR, PORT OF GRAYS HARBOR, WA

Senator **Hatfield**. Mr. Cliff Muller, I am happy to invite you to the table, the executive director of Grays Harbor navigation improvement project, the Port of Grays Harbor. I am glad to see there is a future after Hank Soike.

Mr. **Muller**. Yes; he and President John Stevens send their best regards to you. They are sorry they could not be here, but John Stevens is working on his usual round of issues, and Hank is trying to do a little traveling and fishing, but they wanted to let you know that he continues to dabble in the port business. We keep an office for him at our port, and when he gets the itch, you know his long life love for ports, and he comes in and helps me out.

Senator **Hatfield**. Send him my warm regards.

Mr. **Muller**. I will do that.

Mr. Chairman, for the record we do have a statement on the Grays Harbor navigation improvement project, and myself, as executive director.

First of all, I am here to thank the members of this committee for their fiscal year 1990 support for the $13 million, which went to the Corps of Engineers to begin the Grays Harbor navigation improvement project. We nickname this project the deeper draft, but I can tell from the other ports that testified this morning there are also deeper draft projects in your State underway, or about to be underway.

I am really proud to report that we have made considerable progress since I was here last year with Mr. Soike and our Senators. The $13 million that has been put in place is about to be put to good use. The port signed the local cooperation agreement, which is no small feat. The invitation for bids are out on the street for the first three contracts, which will take care of 20 of the 24 miles of the project. And we expect to have very favorable responses to those bids.

All of these events, of course, would not have been possible without this subcommittee's support, your support, and those of Congress, and the staff of this subcommittee. And on behalf of the people of Grays Harbor and their elected officials, we really do want to thank you for your support last year.

You know, from being a Pacific Northwesterner, that the port's navigation facilities 2 hours southwest of Seattle are very important, and a critical access link to the Pacific rim, including Japan and Korea, for us, and potential cargoes to the European markets, as well.

Grays Harbor, like many of your Oregon coastal ports, is an export port. We are the fifth largest port in the State of Washington. And we estimate about a $480 million value in our export trade to the rim and to Europe.

So, in some small way, we also try to help contribute to the deficit issue nationally.

Along with the Corps project, the deeper draft project as we call it, we have committed additional funds for the upland portion of this effort. On the one hand you have the navigation channel, which is a $70 million effort, with a local sponsor match of considerable amount by the port.

This year alone we will place $10 million of construction in our upland facilities to even further increase the benefits of the deeper draft project about to get underway.

FISCAL 1991 FUNDING REQUEST

In February of this year, 1990, the Corps of Engineers testimony indicated that construction on the deeper draft could continue in fiscal year 1991 with $10.5 million, which is in the President's budget, to keep this 3-year project on schedule.

The $10.5 million in fiscal year 1991 would take a surplus Union Pacific bridge out of Little Rock, AR, of all places, and transport it to Grays Harbor, modify it, and begin the reassembly.

So, this can be accomplished with this request in fiscal year 1991 to keep what has been a long-term investment for our area underway.

In conclusion, I would like to note that the navigation improvements are needed. I previously testified last year before you that this had a very benefit/cost ratio of 1.9 to 1, which we are quite proud of. The local cost-sharing funds are in place.

As I mentioned, we have signed the LCA. The Corps has initiated the invitation for bids for year one, and we really are quite positive and proud about our progress since we were here last year.

For all these reasons, we respectfully request the construction funding of $10.5 million, which is in the President's budget, be appropriated. And thank you for the opportunity to testify and your consideration here this morning.

Senator HATFIELD. Thank you, Mr. Muller. I have no questions. This project is very self-explanatory, especially at this juncture in its development. It represents a lot of years of effort on the part of many people. And you make a very excellent presentation and are a very worthy successor to Hank Soike. And tell him we got along without him.

Mr. MULLER. Thank you, Senator.

[The statement follows:]

STATEMENT OF CLIFFORD C. MULLER

Mr. Chairman and Members of the Committee, my name is Clifford C. Muller and I am the Executive Director of the Port of Grays Harbor, Washington State's only Deep Water Coastal Port. I am here today to thank the members for their FY 1990 support of $13 million in funding to the Corps of Engineers for a new construction start for the Grays Harbor Navigation Improvement Project (GHNIP).

I am proud to report considerable progress with the FY 1990 funding capability of $13.0 million in place.

The necessary project documents have been completed and the Local Cooperation Agreement signed between the Port of Grays Harbor and the United States Army Corps of Engineers. Invitation for bids on three dredging contacts were issued and very favorable responses have now been received. Construction of the first 20 of the 24 miles of channel to be dredged is expected to start in early May 1990. All of these events would not have been possible without the assistance of the Congress, Committee Members, and Staff associated with Energy and Water Development. Grays Harbor thanks you for your support and actions in fiscal year 1990.

The port's navigation facilities provide the access link among federal, state, and private timber resources and the Pacific Rim countries of Japan, Korea, Peoples Republic of China, and, our newest foreign customer, India. Marine cargoes also go to European markets. Grays Harbor is the largest timber and related finished products exporting port in the United States.

In 1989, 74 percent of the vessels departing from Grays Harbor had sailing drafts in excess of the current project depth. By overdredging berth areas, accepting vessel delays, and bailing at maximum tide conditions, our pilots are able to move vessels with 34 feet of draft out of our existing 30-foot federal project. However, we are not able to load to capacity the larger vessels with up to 38 feet of draft. These vessels must go to other ports to be topped off before departure to international destinations. In addition, some larger vessels do not stop in Grays Harbor because of our shallow draft, but would stop if we had a deeper channel.

Grays Harbor is primarily an exporting port. 1989 was a record year with 4.6 million tons of cargo with an estimated value of $479.9 million. While our country still suffers from trade imbalance, Grays Harbor's activities continue to assist in reducing the deficit. Also, a major effort to convert Grays Harbor into a modern day diversified cargo port is now underway. A commitment of $10.1 million in capital projects, in addition to the GHNIP funding requirements, has now been budgeted to accomplish this goal. Completion of these capital improvement projects, which include rail lines, a new transit shed, new handling equipment, and cargo yard paving, is scheduled to coincide with that of the GHNIP. This effort will connect two major transcontinental railroads, the Burlington Northern and the Union Pacific, and the present freeway system with our existing modern marine terminals. The GHNIP is the critical link in this modernization and diversification effort. Our solicitation of diversified cargoes is already underway and has resulted in proprietary discussions with many interested shippers who have been made aware of future opportunities at Grays Harbor with completion of the GHNIP. The Port has established offices in Seattle and Asia to strengthen our marketing efforts.

The Water Resource Development Act of 1986 (Public Law 99-662) authorized the Grays Harbor Project and made the Corps and the Port financial partners in the construction of this project. Public Law 99-662 authorized the Grays Harbor Project at $95.7 million. The total Project cost has been significantly reduced to $70.2 million through project modifications made possible by detailed design studies conducted by the Corps. Also, $22.4 million of that total is the Port's obligation as Local Sponsor. Note: The $70 million number reflects full funding to a projected construction start in fiscal year 1990, and extends over the full three year construction period.

On February 20, 1990, Corps of Engineers testimony before the House Appropriations Subcommittee on Energy and Water Development indicated that construction on the Grays Harbor Project could continue in FY 1991 and the $10.5 million in the President's Budget would keep the three year project on schedule.

This is a significant cost savings as compared to the construction of a new bridge. Twenty miles of the 24-mile project, from the ocean bar through the Harbor to existing down-stream terminals, plus crab and fish mitigation projects, will be completed in FY 1990 or early FY 1991. This dredging in FY 1990 provides increased channel depth to four downstream deep water berths (three public and one private) which handled 51 percent of the Grays Harbor marine commerce in 1989.

It is significant to note that if the second year of construction funds in the amount of $10.5 million are made available in fiscal year 1991, contracts could be awarded to remove a surplus Union Pacific railroad bridge in Little Rock, Arkansas and transport it to Grays Harbor. The remainder of the project in FY 1992 will involve completion of the railroad bridge and four miles of dredging to three upstream deep water berths.

In conclusion, I would like to note that: One, the navigation improvements are needed, they are long overdue, and initial construction is about to begin; two, local Cost Sharing funds are in place; three, all lands, easements, rights-of-way, relocations, and disposal areas (LERRD) requirements have been completed; four, the Port of Grays Harbor, as Local Sponsor for the Grays Harbor Navigation Improvement

Project, has signed an LCA with the Assistant Secretary of the Army (Civil Works); and finally, 5. the Corps has started the construction activity in FY 1990 and needs FY 1991 federal funds to continue the project.

For all of these important and compelling reasons, we respectfully request construction funding totaling $10.5 million be appropriated in FY 1991 for the Grays Harbor Navigation Improvement Project.

Thank you very much for the opportunity to testify.

COLUMBIA BASIN PROJECT, WASHINGTON

STATEMENT OF CHAN D. BAILEY, EXECUTIVE SECRETARY, COLUMBIA BASIN DEVELOPMENT LEAGUE

Senator HATFIELD. Now, Mr. Chan Bailey, executive secretary of the Columbia Basin Development League.

Mr. BAILEY. Thank you, Mr. Chairman.

Seated behind me are six farmers from the Columbia basin project who represent the three irrigation districts there. And they are part of the agricultural community that helps to supply a portion of the agricultural goods that go out the various ports you have been talking about here before.

Senator HATFIELD. We are happy to have each of you here this morning.

Mr. BAILEY. The Bureau of Reclamation has been doing an environmental impact statement that addressed further development on the Columbia basin project. That went to public hearing last fall, and they anticipated that they would be able to answer the comments satisfactorily and that it would be finalized this year.

ENDANGERED SPECIES ISSUES

The comments, however, showed that the subject of the migratory salmon and steelhead in the Columbia River needed to be addressed more closely than they had done in the EIS. So that means that they will be required to write a supplement to the EIS. And this decision came about after the Bureau's budget for the Columbia basin project was made.

The budget as presented was for $3.9 million, and the Bureau and the Columbia basin irrigation districts are asking for an additional $400,000 to that budget for completion of the supplement to the EIS.

The EIS addresses many issues on the Columbia River, and there has been much time and money expended on it by both the Federal Government and the State of Washington. And it would be a shame to not see that carried through so that all of the questions that can be answered concerning energy development, fisheries on the river, recreation, wildlife, all those types of things, can be answered so that we can determine whether to proceed or not proceed with further development on the project.

I thank you for your time here today and for your past support.

Senator HATFIELD. Well, thank you very much, Mr. Bailey, for your testimony. And I note that you have included some documents from others in your area representing this project, and we will include all those documents in the record, plus the names of your associates here this morning.

[The statements follow:]

STATEMENT OF CHAN BAILEY

This testimony supports the fiscal year 1991 budget of $3,900,000 as proposed by the Department of the Interior for the irrigation facilities portion of the Columbia Basin Project in Washington State.

An additional $400,000 has become necessary for the preparation of a supplement to the "Draft Environmental Impact Statement" that addresses development in the Columbia Basin Project. Public comment concerning anadromous fish issues in the Columbia River prompted a determination by the Bureau of Reclamation that a supplement would be the most adequate way to respond to those concerns. The fiscal year 1991 budget had been submitted prior to the decision on the supplement creating the need for the $400,000 increase in the Project's budget.

The Draft E.I.S. addresses many concerns, including ground water drawdown, water conservation, recreation and wildlife enhancement, crop diversification and markets, energy requirements and cost-benefit analysis to name a few. The Final E.I.S. will be a very useful document when completed and the supplement is a necessary portion of that document. With the time and expenditure of Federal and State of Washington funds to date, the additional $400,000 would be well spent to assure completion of the E.I.S.

Your continued support and approval of the FY 1991 budget for the Columbia basin Project will be appreciated.

STATEMENT OF THE EAST COLUMBIA BASIN IRRIGATION DISTRICT

The East Columbia Basin Irrigation District requests that the Senate increase the President's proposed budget for the Columbia Basin Project for fiscal year 1991 by $400,000. This increase will result ina total budget for the Columbia Basin Project of $4,300,000. This amount compares favorably with past budgets of $5.21 million in FY 1990 and $4.33 million in FY 1989.

The additional $400,000 is necessary to prepare a supplement to the "Draft Environmental Impact for Continued Development of the Columbia Basin Project." The Draft EIS was completed and published on schedule in September of 1989. The Bureau of Reclamation has determined that a supplement will be necessary to satisfactorily address Columbia River anadromous fish issues raised during the public comment period. The FY 1990 budget proposal prepared by Reclamation provided for taking the EIS from draft to final. However, that budget, prepared prior to the public comment period did not foresee the need for a supplement to the draft. If the additional $400,000 is provided, Reclamation anticipates completion of the supplement, including additional public comment, by early in FY 1991. Filing of the final EIS can then be completed by the end of calendar 1991.

This proposed budget will also provide sufficient funds for construction of agricultural drains. The current need for drain construction is not nearly as widespread as it was in the earlier years of the Project. However, continuing drain construction, as the need arises, is vital to the long term sustainability of the Project.

The proposed budget also includes funds for improvements to existing recreational facilities at Scootney Reservoir. The public lands and lakes of the Columbia Basin Project have become a very popular regional outdoor recreation attraction.

STATEMENT OF THE QUINCY-COLUMBIA BASIN IRRIGATION DISTRICT

The Quincy District is one of the three districts comprising the Columbia Basin Project and is responsible for delivering federal water to approximately 250,000 acres. It is appreciative of this opportunity to present testimony in support of the President's budget request for the Project for fiscal year 1991.

The District is pleased to note that the proposed budget request includes funds for continued drainage construction. As you well know, failure to construct adequate drainage facilities to prevent lands from going wet seriously jeopardizes the ability of a District and its waterusers to pay the annual construction cost obligation owing to the United States.

The District is concerned, however, that the proposed budget does not include funds for completion of the Environmental Impact Statement pertaining to Project expansion. Additional funds in the amount of $400,000 are needed to prepare a supplement to the draft E.I.S. to address the topic of mitigation for anadromous fish in the Columbia River and other areas of concern that were expressed during the public review period of the draft E.I.S. Once this has been accomplished, work will continue toward a final E.I.S. scheduled for September 1991.

In view of the expenditure of funds heretofore appropriated and expended for the completion of the E.I.S., it appears to be uneconomic to fail to proceed to completion of the E.I.S. This is especially true in view of the cost sharing heretofore expended by the State of Washington in support of the E.I.S.

The District is supportive of the proposed fiscal year 1991 appropriation request but does urge that adequate funds be included in the budget to timely complete the E.I.S. pertaining to the contemplated Project expansion.

Fiscal year 1991 Columbia basin project, Washington

President's budget request:	
Drainage construction program	$3,081,000
Continue study of road and other instability problems in Franklin County, Washington	225,000
Completion of minimum basic safety and health facilities at Scooteney Park	344,000
Other ongoing miscellaneous work	250,000
Total requested—Fiscal year 1991	3,900,000

FISCAL YEAR 1991 CAPABILITY

Additional funds in the amount of $400,000 are needed to prepare a supplement to the draft EIS to address the topic of mitigation for anadromous fish in the Columbia River and other areas of concern that were expressed during the public review period of the draft EIS. Once this has been accomplished, work will continue toward a final EIS for expansion of the project which is scheduled for September 1991.

COLUMBIA BASIN PROJECT DELEGATION

Chan Bailey, P.O. Box 715, Othello, Washington, Executive Secretary, Columbia Basin Development League; Leo Fangman, 7452 Russell Road, Mesa, Washington, Director, South Columbia Basin Irrigation District Project farmer; Rogers Neff, P.O. Box 612, Pasco, Washington, Director, South Columbia Basin Irrigation District farmer in undeveloped portion of the project; Lloyd Ottem, 1149 S. Lemaster Road, Othello, Washington, Director, East Columbia Basin Irrigation District Project farmer; Richard Stevens, Route 1, Box 484, Soap Lake, Washington, Director, Quincy-Columbia Basin Irrigation District Project farmer; Earl Terwilleger, P.O. Box 96, Warden, Washington, Director, East Columbia Basin Irrigation District Project farmer; Stu Trefry, Assistant Director, Washington State Department of Agriculture, 406 General Administration Bldg., Olympia, Washington; and Russell Wentworth, Route 1, 404-4 N.W. Ephrata Washington, Director, Quincy-Columbia Basin Irrigation District Project farmer.

STATEMENT OF HARVEY BOLLINGER, EXECUTIVE DIRECTOR, REDARK DEVELOPMENT AUTHORITY, OKLAHOMA

Senator HATFIELD. Mr. Harvey Bollinger, executive director of the Redark Development Authority.

Mr. Bollinger, you are representing the Redark Development Authority, and I believe that is in Congressman Wes Watkins' district?

Mr. BOLLINGER. Yes, sir; that is correct. Congressman Watkins initiated the concept for the Redark Development Authority.

Senator HATFIELD. How well I know.

Mr. BOLLINGER. I bet you have heard that several times, have you not?

Senator HATFIELD. He does not let us forget that for one moment. Did he announce his future?

Mr. BOLLINGER. He is tentatively, I believe, scheduled to announce his future the first week in April. We are anticipating it will be affirmative to run for Governor of the State of Oklahoma.

Senator HATFIELD. Well, at least until he finishes this project.

All right, you may proceed. We have your written testimony. We will include that in the record in full, and then you may summarize as you wish.

Mr. **Bollinger**. I am Harvey Bollinger, executive director of Redark Development Authority, a public trust in Oklahoma.

Mr. Hatfield, on behalf of the 19-member board of trustees of Redark, I want to express our appreciation for this opportunity to again meet with this subcommittee.

As you mentioned, I have submitted testimony, and I will simply summarize two or three projects that I would like to talk about. Two of the projects that we are dealing with, this funding we are requesting would complete the projects. And we would like to thank the committee for its past support in allowing us to get to this point of being able to, with these appropriations, complete these two projects.

Three of the projects I would like to touch on quickly. Two of them are very important to protect and fully achieve the major previous Federal investment that we have made in the projects. The third is to support a new use of our Nation's inland waterways, and one that is vitally important to our national defense program.

Red River Chloride Control Project

I know that Chairman Johnston is very familiar with the Red River chloride control project, a project to control the natural salt pollution of the entire Red River from 10 sources in the upper Oklahoma and Texas area.

Although a favorable report on the effectiveness of the existing construction has been available since August 1988, to this date the Corps has not included any additional funds in their budget to complete the projects.

They have actually testified that this project has a low priority in their opinion for Federal funding. The Corps also, though, in their studies, defined that the benefits for this project can only be realized if the entire project is completed.

By taking 25 percent of the salt out of the river, we cannot achieve 25 percent of the benefits. The Corps has spent millions of dollars over the past 30 years on planning, designing, and constructing the Chloride Control Program. If we do not finish this project, then our previous investment will be wasted, and the documented benefits lost to future generations.

We would, therefore, ask that the committee consider $7.5 million be provided in fiscal year 1991 to start construction of area 6, 7, and 10.

MILITARY USE OF INLAND WATERWAY SYSTEM

The second project I would like to touch on is the military use of the waterways. Over the past 3 years, during our testimony we have provided you with the results of nine military movements on the inland waterways, which occurred as a result of the initial test movement conducted on the McClellan-Kerr in 1986 by the Oklahoma National Guard, working with the Corps of Engineers Tulsa

District, particularly, Mr. John Sparlin of the planning division of that district.

This past summer, military history was made again. The Second Brigade of the 101st Airborne Division moved 693 pieces of military equipment from Fort Campbell, KY, to Fort Chafee, AR, and Camp Gruber, OK. This marked the first time since World War II that an active U.S. Army unit had used the waterway for a major military movement.

The Tennessee Valley Authority established a study that said that the savings of this waterway movement was $250,000 to the Government by using the waterway over other modes of transportation.

The Tulsa District has completed a final design on a loading facility for the National Guard Bureau to be located at Boudinot Safety Harbor near Camp Gruber, OK, on the McClellan-Kerr River. We would ask that $400,000 be provided in fiscal year 1991 for the construction of this project.

As you can see, the savings from this single movement last year is more than half of what the construction of this facility would be, and it would allow us to continue to achieve savings of this nature.

MONTGOMERY POINT LOCK AND DAM

The third and final project that I would like to touch on is the Montgomery Point Lock and Dam on the McClellan-Kerr/Arkansas River navigation system, also known as Lock and Dam Zero. The Corps agrees that this project is part of the originally authorized document.

The Corps own figures indicate that since 1980, there have been navigation restrictions on the entrance channel an average of 42 days per year. The Corps estimate of the economic impact is approximately $425,000 per day for each navigation restriction. So you can see we are talking a great deal of money because of the lack of use of the existing facility.

The Inland Waterway User Board has expressed the view the McClellan-Kerr/Arkansas system was authorized at 100-percent Federal expense, and that the proposed lock and dam, should it be found to be economically feasible, should also be 100-percent Federal expense.

Given the above information on the type of cost that we are spending to have these restrictions, that would be eliminated, we would like to ask that $1 million be provided in fiscal year 1990 to buy land so that we could initiate the construction of Montgomery Point Lock and Dam Zero.

We have invested over $1 billion in the McClellan-Kerr System. And to not go ahead now and spend the needed money to keep this system operational on a fully functional basis seems almost like buying a car for $20,000 and then once you have a flat on it, letting it sit because you do not want to buy a new tire to put on it.

Mr. Chairman, we thank you again for the support in the past, and we ask your consideration for these projects in the future.

Senator **HATFIELD**. Thank you, Mr. Bollinger.

I have one question. On the third project within your area, the loading ramps at Boudinot Safety Harbor, could you tell me a little bit about that part of the project, the $400,000?

Mr. **Bollinger**. This is an inlet that is near Camp Gruber, OK, which is a facility that is utilized a great deal by the regular Army and the National Guard units all over the United States for training purposes.

And we have been simply off-loading the equipment in a makeshift manner at that location. This $400,000 would actually construct a loading facility, a docking facility if you will, a ramping facility, that would allow them to more efficiently off-load and unload the military equipment, that can be then transported—it is actually just driven over a very few miles to Camp Gruber.

Senator **Hatfield**. Now in this whole replanning process, including base closures and so forth, and our new strategic defense policy that is now evolving, this military facility is not on a closure list?

Mr. **Bollinger**. No; this military facility here is actually operated by the Oklahoma National Guard. And it is made available to active Army units throughout the United States.

Senator **Hatfield**. And is the legislature making investments that would lead one to believe that this facility is going to be utilized and needed in the 10 years ahead, the decade and two decades ahead?

Mr. **Bollinger**. Yes, sir; the Oklahoma Legislature has fully and historically supported Camp Gruber and the financing of facilities at Camp Gruber.

Senator **Hatfield**. Thank you very much.

[The statement follows:]

STATEMENT OF HARVEY BOLLINGER

The following is a listing of projects and required action by the committee:

Project	Required action by committee
McGee Creek Lake (BOR)	Fund $500,000 to complete and $$33,000 for O&M.
Red River chloride control (COE)	Fund $7.5 million to initiate construction on areas VI, VII, and X.
Military use of waterways (COE)	Fund $400,000 for loading ramps at Boudinot Safety Harbor, OK.
Montgomery Point Lock and Dam O (COE).	Fund $1.0 million to buy land for construction.
Sardis Lake (COE)	Fund $725,000 to complete.

REDARK DEVELOPMENT AUTHORITY

Mr. Chairman and Committee Members on behalf of the 19-member Board of Trustees of RedArk, I want to express our appreciation for this opportunity to again meet with this committee. We consider it an honor and a privilege to testify before this committee because we feel that without a strong multi-purpose national water development program, many of the other important aspects of our country's future, including the nation's defense program are really being built on a very unstable foundation. We also consider it a responsibility to work with you and the committee.

The RedArk Development Authority (RedArk) is a public trust established under the laws of the State of Oklahoma for a 21-county area of East Central and Southeast Oklahoma. The name RedArk is derived from the fact that the area lies immediately between two major water resources, the Red and the Arkansas Rivers. The purpose of RedArk is to undertake the maximum potential development of the area's water and natural resources with the objective of obtaining the maximum Potential economic and employment benefits for the people of that area. With this purpose in mind, RedArk is vitally concerned with the development of not only what we consider our area's most vital resource, but also the most vital resource of our great nation—Water.

To achieve its principal purpose, RedArk has initiated a comprehensive, multipurpose, resource development program. This effort includes a major water and energy program of hydropower development, water supply, recreation, flood control, water quality and other related activities.

RedArk is aware of the constraints on the Federal budget and have kept those constraints in mind as the following requests were developed. On behalf of the RedArk Board of Trustees and because of the far-reaching regional and national benefits addressed by the followingprojects, I urge the members of Congress to review the materials contained herein and give serious consideration to funding the projects requested.

M'GEE CREEK LAKE

McGee Creek Lake was authorized for construction, operation, and maintenance in accordance with Federal Reclamation Laws by PL 94-123, September 28, 1976. McGee Creek Lake is located in Atoka County in Southeastern Oklahoma. McGee Creek is a northern tributary of the Red River. The damsite is about 3.4 miles above the confluence of McGee and Muddy Boggy Creeks. The project was authorized for water supply, flood control, and recreation. Construction began on the project in June 1982.

RedArk strongly supports continuation of this project, and the concept demonstrated in the project of maximum development of the local economy by maximum utilization of opportunities provided by the project's development. We recommend the members of the McGee Creek Authority continue to cooperate with the basin interests to fully develop the economic potential of this project for the benefit of the project area and the nation.

The dam is completed with the entire project originally scheduled for completion in fiscal year 1990. In order to complete this project on schedule and to fully realize the previous investment, RedArk is asking that $500,000 be provided to totally complete this project in fiscal year 1991. We also ask that the Bureau be instructed to utilize these funds entirely and only on the McGee Creek project. In addition we ask that $330,000 be provided the Bureau of Reclamation for operation and maintenance of this project in fiscal year 1991.

RED RIVER BASIN CHLORIDE CONTROL

The availability of an ample supply of clean water for use by the communities along the Red River has become an increasingly major concern of the millions of citizens residing in the basin. More and more, communities along the river are finding themselves faced with critical shortages of water for current as well as future use. Solutions being developed by individual communities are not only extremely costly, but in many cases, are leading to unacceptable rivalry between the states and communities along the river.

Because of this need for a reliable clean water supply for economic growth as directly related to agriculture, municipal, and industrial benefit, RedArk is vitally concerned with the control of the ten natural salt pollution areas within the upper Red River Basin.

We have actively supported the work of reducing man-made pollution of the river and have followed, with keen interest, the work of the Corps of Engineers in finding sources of natural salt pollution and devising ways of abating them.

Construction of a ring dike to test application of backhead as a means to suppress individual brine springs was completed at Estelline Springs, Texas, (Area V) in 1974. Today, the structure is operated as a permanent control installation and successfully contains approximately 80 of the total chloride load emitted from Area V.

Construction on Area VIII, which includes the Truscott Brine Lake, was begun in February 1977, and the Area VIII facilities were placed in operation in May 1987. Section 1107 of the Water Resources Development Act of 1986 (PL99-662) authorizes construction of the control measures at the remaining area (Area VI, VII, IX, X, XIII, XIV, and XV) at full Federal expense upon transmittal of a report to the Secretary of the Army, the Committee on Environment and public Works of the Senate, and the Committee on Public Works and Transportation of the House of Representatives of a favorable finding of the effectiveness of the operation of Area VIII. This report was to be made by a five-member panel consisting of representatives of the U.S. Geological Survey and the Texas Water Commission, a person selected by the National Academy of Sciences, and two other qualified persons to be appointed by the Secretary with the concurrence of the Governors of Texas and Oklahoma. The panel performed a qualitative analysis to assess the improvements (reduction of chlorides) in water quality downstream of Area VIII to determine its consistency with the water quality assumed in the development of the project benefits by the economic reanalysis in the Corps of Engineers Memorandum No. 25 of 1980.

Based upon the Evaluation Panel Report completed in August of 1988, they concluded "that the control system at the Bateman Pumping Station (Area VIII) is operating better and more effectively than was predicted in Memorandum No. 25. Chloride removal during the test year actually exceeded projection, and the expected level of control over the anticipated life of the project is estimated to be at least 87 percent, which again, exceeds projection." While I was employed by the COE-Tulsa District I was a member of the team which developed Memorandum No. 25; therefore, I am very pleased with the findings of the Evaluation Team.

Although a favorable report on the effectiveness of Area VIII has been available since August 1988, to date no funds have been included in the Administration's budget for this project. The Corps has stated in testimony before this subcommittee that this project has a low priority for Federal funding.

Mr. Chairman Memorandum No. 25 restated the Corps position that for the benefits of this project to be realized that the entire project must be constructed. Unless the total amount of salt to be removed by the project design is actually removed, the benefits will not result. Taking 25 percent of the salt out will not achieve 25 percent of the project benefits. The Corps has spent millions of dollars over the past thirty years on planning, design and construction of the chloride control program. If we do not finish this project then our previous investment will be wasted and documented benefits lost to future generations.

I therefore ask that $7.5 million be provided in fiscal year 1991 for the Corps to start construction of Areas VI, VII, and X and that the Corps be directed to complete the engineering and design necessary to start construction of Areas VI, VII and X during fiscal year 1991.

MILITARY USE OF WATERWAY

Over the past three years during our testimony we have reported to you the results of nine (9) military movements on the inland waterways which have occurred as a result of initial test movements conducted on the McClellan-Kerr in 1986 by the Oklahoma Army National Guard working with the COE-TD, particularly Mr. John Sparlin, Chief of the Economic and Social Analysis Branch of the Planning Division. This past summer military history was made again. The 2nd Brigade, 101st Airborne Division moved 693 pieces of military equipment from Fort Campbell, KY to Fort Chaffee, AR and Camp Gruber, OK.

This marked the first time since WWII that an active US Army unit has used the waterway for a major equipment movement. The movement was 1760 miles round trip and included two tows, one with 19 barges, the other with 23 for a total of eight (8) million pounds. The material moved consisted primarily of trucks and other wheeled vehicles used to support the 2000 soldiers in the three-week Joint Readiness Training Command. Another first included the movement of two (2) UH-60 Blackhawk helicopters with their blades in place. A study done by the Tennessee Valley Authority established the savings of the waterway movement to be $250,000.

Another regular army that also made history was the 20th Engineers' from Fort Campbell, KY (Lock "C" on the Cumberland River) to Belize (Old British Honduros). This was the first military movement on the Tennessee-Tombigbee Waterway. I understand Mr. Chairman that you had the opportunity to view this movement first hand. It involved 112 pieces of equipment by a private vendor on one 75'x230' ocean-going barge. This is the first such movement since WWII, possibly the first ever on such a barge.

The Tulsa District has completed the final design of a loading facility for the National Guard Bureau. This facility is to be located at Boudinot Safety Harbor, near Camp Gruber, OK at river mile 382. We ask that $400,000 be provided in fiscal year 1991 for the construction of this facility.

MONTGOMERY POINT LOCK AND DAM MCCLELLAN-KERR, ARK RIVER NAVIGATION SYSTEM

We know that the members of the subcommittee are very familiar with the need for this project also known as Lock and Dam O. The Corps agrees that the project is part of the original authorization document. House Document 79-758, which was the basis for authorization of the project by Public Law 79-525, reflected a lock and dam near the mouth of the White River in the multi-purpose plan. Initial studies indicated this lock and dam would be required to provide sufficient depth over known sediment deposits in the White River Entrance Channel and for varying elevations of the Mississippi River. Subsequent to project authorization, and during detail design studies, this structure was deleted from the system, because the Mississippi River was considered very stable for the Entrance Channel's navigational needs.

More recent studies of the Mississippi River have indicated channel stabilization and other related works on the Mississippi River have lowered the stages on the Mississippi River at the entrance to the waterway. The Corps' own figures indicates that since 1980 there have been navigation restrictions on the White River Entrance Channel an average of 42 days per year. The Corps has estimated the economic impact to be approximately $425,000 per day for each day navigation restrictions are incurred on the entrance channel.

The Inland Waterways User Board expressed the view that the McClellan-Kerr Arkansas River Navigation System project was authorized at 100 percent Federal expense and that if the proposed Lock and Dam O were found to be economically feasible, it should also be at 100 percent Federal expense. Given the above information regarding economic impact such economic feasibility appears certain. Therefore, we ask that $1 million be provided in fiscal year 1991 to initiate construction of Montgomery Point Lock and Dam O to remove the navigation restrictions and protect the $1,044,000,000 public investment already made in the McClellan-Kerr System.

WATER RESOURCE INFORMATION/VISITOR CENTER, EUFAULA, OK

The Energy and Water Development Appropriation Bill for fiscal year 1988 provided $388,000 to construct a facility to serve as a Water Resources Information and Visitor Center at Crowder Point on Eufaula Lake, Oklahoma. The Energy and Water Development Appropriations Bill for fiscal year 1989 provided a $500,000 increase for operations and maintenance at Eufaula Lake for improvements to roads, utilities, and other facilities in the existing Crowder Point East Recreation Area.

RedArk Development Authority agreed to be the non-Federal sponsor on this project. RedArk working with the Oklahoma Legislative and Oklahoma Department of Tourism and Recreation secured $388,000 for the non-Federal match in fiscal year 1989.

The Corps of Engineers completed a study on November 16, 1988 which included a project design and cost estimate of $776,000. However, on November 06, 1989 the Corps presented RedArk with a draft Local Cooperation Agreement (LCA) which shows the building cost at $1,358,000. They have also added the improvements to the recreation area provided in your fiscal year 1989 bill to bring the total project cost to $1,858,000 and have asked the non-Federal sponsor for a total of $929,000. This is more than twice the original non-Federal cost share.

In addition, the LCA provides that the 50 percent cost partner have only the right to comment on the project but award of contracts, modifications or change orders, and performance of all work on the project shall be exclusively within the control of the Government. Given the Corps track record over the short history of this project and numerous other cost overrun examples, it would appear very dangerous to agree to allow them 100 percent control when you are paying 50 percent of the bill.

We ask that the committee direct the Corps to spend the $500,000 operations and maintenance funds as directed at total federal cost and remove such from the cost of the information and visitor center project.

SARDIS LAKE, OKLAHOMA

The access road from Sardis Dam to Daisy, Oklahoma is scheduled for completion in May 1990. We understand that an additional $725,000 is needed for construction modifications to correct drainage problems and to compensate the contractor for unanticipated rock excavation and quantity overruns. We ask that these funds be provided in fiscal year 1991.

CONCLUSION

Thank you, Mr. Chairman and other committee members for this opportunity to appear before you again this year. God be with you as you toil to serve our nation and its people.

Senator HATFIELD. All right. I would like to submit for the record testimony by Anne Basker, related to Elk Creek Dam, at this point, along with a letter from Rocky McVay, Commissioner from Curry County, OR.

[The statement and letter follow:]

STATEMENT OF ANNE BASKER, CHAIRMAN, ROGUE BASIN FLOOD CONTROL AND WATER RESOURCES ASSOCIATION

Thank you for the opportunity to present written testimony in support of the Administration's request for three million dollars ($3,000,000) in fiscal year 1991 for the continuation of Elk Creek Dam, the third and final phase of the Rogue Basin Project on the Rogue River in southwest Oregon.

Court action halted construction on the project in 1987. In May of last year the United States Supreme Court voted unanimously to permit the project to continue pending the completion of one requirement that this appropriation will finance -- an analysis of the cumulative impacts of the project.

The Elk Creek Dam has the unqualified support of our 87 member-groups which range from garden clubs to local governments, and granges to family vacationers. No project in the Pacific Northwest has received more careful analysis or long-term study than has Elk Creek Dam.

Population in all three counties (Jackson, Josephine and Curry) which the project will serve is growing at a rate exceeding any other section of the state. Municipal and industrial water needs are growing throughout the region with Ashland and (the city of) Rogue River the most recent cities to consider the Rogue as an option for needed water.

Recreation at Lost Creek Lake, another of the Rogue Basin Project reservoirs, has increased by over 14% in the past year. 580,000 people visited Lost Creek's Stewart State Park in 1989. Day-use visitors were not counted. Both Applegate and Lost Creek recreation areas have been at or beyond capacity for summer use for several years clearly demonstrating the need for the additional facilities planned for Elk Creek Lake.

In 1989 Lost Creek generated 293,761 megawatts of power worth seven million dollars ($7,000,000). Given the area's rapid growth, there is continued interest in power generation at Elk Creek Dam.

We are grateful for your consideration and will be happy to supply additional information or respond to questions at your convenience. We have listed appropriate phone numbers below and will make every effort to send a delegate to Washington if that should be necessary to your deliberations.

Thank you for your consideration.

LETTER FROM ROCKY McVEY, COMMISSIONER, CURRY COUNTY, OR, BOARD OF COMMISSIONERS

March 23, 1990

Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

This letter is to record our support and understanding for the Corp of Engineers proposed program to provide necessary and adequate annual maintenance dredging of the southwestern Oregon navigation projects on the Chetco, Rogue and Coquille rivers, and at Port Orford, in fiscal year 1991 at a level of dredging of the fiscal year 1990 program.

While there is a difference in the fiscal year 1991 Civil Works Budget Request to congress for funding of Operation and Maintenance of the Chetco and Port Orford projects from the congressionally appropriated funds for these two projects for fiscal year 1990, it is our understanding that the Portland district will provide the normally scheduled dredging of these two projects in fiscal year 1991 based of course, on need.

Since congressional budget additions or directions were necessary in recent years for adequate maintenance dredging of the Rogue and Coquille rivers and Port Orford project, we have asked acknowledgement and confirmation of the Portland district's proposed dredging program for fiscal year 1991.

Sincerely,

Rocky McVay

Rocky McVay, Commissioner

pc: Port Commissioner Wilber Ternyike, Chairman Dredging
Committee Oregon Coastal Zone Management Association

ADDITIONAL PREPARED STATEMENT

Senator HATFIELD. The staff also indicates that the Metropolitan Water Reclamation District of Chicago has submitted a prepared statement which will also be made part of the record.

[The statement follows:]

STATEMENT OF METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

SUMMARY RECOMMENDATIONS

O'Hare Reservoir - Chicagoland Underflow Plan	**$4,300,000** **Construction**
McCook and Thornton Reservoirs - Chicagoland Underflow Plan	**$2,000,000** **Preconstruction Engineering and Design**

On behalf of the Metropolitan Water Reclamation District of Greater Chicago, I want to thank the Subcommittee for this opportunity to present our priorities for Fiscal Year 1991, and at the same time express our appreciation for your support of the District's projects in years past. The District has two Corps of Engineers' priority projects, namely; the O'Hare Reservoir - of the Chicagoland Underflow Plan, and the McCook and Thornton Reservoirs - of the Chicagoland Underflow Plan for which we are requesting the Subcommittee's support for in its Energy and Water Development Appropriations Bill for FY 1991. The following outlines the projects and the need for the requested funding.

The O'Hare Reservoir - Chicagoland Underflow Plan

The O'Hare Reservoir of the Chicagoland Underflow Plan was fully authorized for construction in P.L. 99-662, the Water Resource Development Act of 1986. The authorization provides for the construction of a 1,050 acre-foot excavated floodwater storage reservoir. The reservoir will be located in the metropolitan Chicago area and will be interconnected to the existing O'Hare segment of the District's Tunnel and Reservoir Plan (TARP). The TARP plan came about in an effort to address the overwhelming water resources problem in the Chicagoland area, which was that the capacity of the rivers as drainage channels in the Chicago area had been over-taxed over the years and had become woefully inadequate, with its water polluted by the discharge of combined sewer overflows. To address the problem, after years of study by the District, the TARP plan adopted in 1972 was found to be the most cost-effective and socially and environmentally acceptable alternative for reducing flooding and water pollution problems associated with combined sewer systems in the Chicago metropolitan area.

The plan envisaged the construction of new rivers under the Chicago area rivers by the construction of deep tunnels, up to 35 feet in diameter and 300 feet below the surface. To provide an outlet for the new underground rivers, reservoirs were to be constructed at the end of the tunnel systems. Over 51 miles of tunnels have been constructed at a cost of $1.2 billion and have been operational since 1986. Another 14 miles of tunnels costing $0.3 billion are under construction. But the new underground rivers have no place to go when they fill up during rainstorms. The O'Hare and the Thornton and McCook projects provide the reservoir outlets for the new underground rivers and will be emptied after the rain. Without these outlets, the local drainage has nowhere to go when large storms hit the area. Therefore, the combined stormwater and sewage backs up into over 500,000 homes.

The O'Hare Reservoir is the first component of the Corp's reservoir program which is known as the Chicagoland Underflow Plan. Understanding the severity of the flood threat to the densely populated north-central Cook County area, Congress authorized the project to be built to at least 1,050 acre-feet in size in order to provide optimum cost-effective storage capacity for flood control purposes. In last year's FY 1990 Energy and Water Development Appropriations Act, Congress provided $1,500,000 in first-year construction funds for the O'Hare Reservoir and clarified that the reservoir be built to at least 1,050 acre-feet in size as authorized, and in full accordance with the cost-sharing percentages specified in Section 103(a) of the Water Resources Development Act of 1986. The District as the local sponsor, is fully committed to the project, has purchased the necessary land at a cost of $4.2 million and is meeting its remaining cost sharing obligations under the law.

Based on the present high flood risk and potential damage due to inadequate channel capacity, we, along with our supportive congressional delegation, are urgently requesting that the Subcommittee include $4.3 million in second-year construction funds to continue construction on the O'Hare Reservoir project in the FY 1991 Energy and Water Development Appropriation Bill.

Based on two successive Presidentially-declared disasters in our area in 1986 and again in 1987, we believe the probability of this type of flood emergency occurring before implementation of the critical flood prevention measures is quite high. As the public agency for the greater Chicagoland area responsible for water pollution control and, as the regional sponsor for flood control, we have an obligation to protect the health and safety of our citizens. We are asking your support in helping us achieve this necessary and important goal.

The McCook and Thornton Reservoirs - Chicagoland Underflow Plan

The McCook and Thornton Reservoirs of the Chicagoland Underflow plan were fully authorized for construction in P.L. 100 676, the Water Resources Development Act of 1988. This flood protection plan is designed to reduce basement and street flooding due to sewer back-up, which is directly attributable to the inadequate capacity of the Chicago metropolitan area watercourses. This project, which contains the second and third elements of the Chicago Underflow plan, and will be connected to the tunnel systems, consists of two reservoirs to be constructed in existing quarries at McCook and Thornton in west and south, respectively, suburban Chicago, Illinois.

The reservoirs will provide a storage capacity of 47,000 acre-feet (15 billion gallons) and will produce annual benefits of $75 million. The total potential benefits of the project are almost twice as much as the total cost.

This is very sound investment with a high rate of return, not to mention the enhancement of the quality of life, safety and peace of mind. The State has endorsed the project and urged its implementation. In professional circles, the project is hailed for its farsightedness, innovation and benefits.

We take particular pride in our contribution to the Thornton element of the project in which our staff saw reason to invest time and talent to review and evaluate the draft recommendations of the Corps of Engineers first released in February 1986. We are proud that our review and evaluation resulted in the formulation of proposals for design changes which produced $24 million in savings to the taxpayers at large. These changes involved coordination and consultation between four agencies at the federal, state and local levels, and were welcomed by the Corps and incorporated in the final report.

Given the broad sweep of our jurisdiction and the severity of the flooding in our area, the Corps felt compelled to develop a plan that was not only unique but sizeable enough to accommodate our service area. With a combined sewer area of 375 square miles, consisting of the City of Chicago and 51 contiguous suburbs, there are 550,000 homes within our jurisdiction which are subject to flooding at any time. Of these, 185,000 homes flood on a regular basis because of inadequate conveyance and outlet capacity. The annual damages sustained exceed $140 million. If the project were in place, these damages could be reduced or eliminated. Furthermore, we should consider the safety and peace of mind of the two million people affected, and the disaster relief funds that could be saved.

In this case as well, the District as the local sponsor has authorized and is actively pursuing land acquisition and is fully prepared to meet its cost sharing obligations under P.L. 99-662. Indeed, substantial financial and other commitments have already been made, most specifically towards the acquisition of the land rights. Current positive developments in the process for acquisition of the land necessary for the flood control project will allow for requisition by the Water Reclamation District on schedule, later this year. Given the fact that the lands necessary for the project will be acquired shortly by the local sponsor for the fully justified plan, any further review of alternative sites for the project or associated economic reevaluation is unnecessary.

It is absolutely critical to the timely process of the plan that the Corps' work in preconstruction engineering and design of the plan which has been proceeding for several years, be continued on schedule.

Given the importance of this plan to the greater Chicagoland area, we urgently request that $2 million be included in the FY '91 Energy and Water Development Appropriations Bill to continue the critical preconstruction engineering and design activities for the McCook and Thornton Reservoirs. As a measure of the widespread public support for these two critical projects and this necessary FY '91 federal funding, I have taken the liberty of enclosing a recent Chicago Tribune editorial in support of these projects.

Again, we thank the Subcommittee for its support of our projects over the years and we thank you in advance for your consideration of our requests this year.

(From the Chicago Tribune, Saturday, Feb. 10, 1990)

A BUDGET GAP THAT INVITES DISASTER

President Bush's new budget contains more than $3.3 billion for the U.S. Army Corps of Engineers to spend primarily on flood control and navigation, a generous contribution to vital public works projects nationwide. It contains no generosity—not a nickel—for an equally vital project in the Chicago area.

This puts the Metropolitan Water Reclamation District and the Illinois congressional delegation back where they were last year at this time: preparing for a spring and summer of battling for what amounts to only small change in that budget. Specifically, the district is asking for $5 million to continue construction of a reservoir near O'Hare Airport and to continue design and engineering work on reservoirs proposed for stone quarries at McCook and Thornton.

The reservoirs are an essential part of the district's mission to control flooding, particularly to spare homes, businesses and Lake Michigan from fouling by stormwater and sewage during torrential rains. The Deep Tunnel system, itself still under construction, does this job remarkably well, but has limited capacity during these increasingly commonplace downpours.

With a combined capacity of more than 18 billion gallons at completion, the reservoirs would provide the places to store the polluted brew until it could be treated and released. Without them, the lake and more than 500,000 structures in 52 communities remain at risk of flooding and sewer backup, at an estimated annual cost of more than $140 million.

The plan all along has been to link the tunnels and reservoirs into a combined system, with the corps endorsing the idea as a cost-efficient, environmentally sound strategy in the federal interest. Congress authorized the O'Hare reservoir in 1986 and the other two in 1988, a sensible choice since $1.6 billion—much of it federal—already has been spent on a system that will be marginally helpful if it isn't finished correctly.

Yet in the peculiar way things work in Washington, the money has not been there to match the authorization. In the last Reagan budget, the project was omitted; the district, after asking for $3 million, had to settle for $2.25 million in an 11th-hour wrestling match in Congress. The new fight is even more critical. The district has bought the land for the O'Hare reservoir with construction to begin this year, and early design work has begun for the others.

The first job for the Illinois delegation, which has been solidly supportive, is to get the $5 million to keep the project on schedule and ensure that all the money spent so far isn't wasted. The bigger job is to convince the rest of Congress and whoever occupies the White House that it is silly to play this game every year. There should be a permanent commitment to fund this mission until it is completed.

SUBCOMMITTEE RECESS

Senator **Hatfield**. The subcommittee will be in recess until 10 a.m. tomorrow, when it will reconvene in room 216 of the Hart Building.

[Whereupon, at 11:30 a.m., Wednesday, March 28, the subcommittee was recessed, to reconvene at 10 a.m., Thursday, March 29.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1991

THURSDAY, MARCH 29, 1990

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:07 a.m., in room SH–216, Hart Senate Office Building, Hon. Dennis DeConcini presiding.

Present: Senators Burdick, DeConcini, Garn, Cochran, Domenici, and Specter; also present: Senators Conrad, Danforth, McCain, and Pressler.

NONDEPARTMENTAL WITNESSES

CENTRAL ARIZONA PROJECT

STATEMENT OF HON. JOHN McCAIN, U.S. SENATOR FROM ARIZONA

Senator DECONCINI. Senator McCain.

Senator MCCAIN. Thank you, Mr. Chairman.

I welcome all of our friends from Arizona here today. I might say that there are too many that we would individually recognize who are here in the room, but I think it is important, of course, to welcome our beloved Governor Rose Mofford and Mr. Bill Plummer, director, Arizona Department of Water Resources, Tom Clark, secretary of the water conservation district and so many others who for so many, many years have played a vital role in ensuring that this magnificent Central Arizona Project is nearing its completion.

Mr. Chairman, I would like to make very important mention of your support, commitment and indeed, vital role that you have played. It is not only your position as a very important member of the Appropriations Committee, but your outstanding work both in committee and on the floor of the Senate that have been, I think, very important in seeing us to where we are.

As you well know, Mr. Chairman, we need a little more money. I believe that the administration's request of $198 million is what you will be considering. Obviously, we all are in very strong support of it.

The administration's request also contains crucial funding for safety of dams work and a number of important flood control projects necessary to protect human life and property in Arizona. I will not take any more of your time, Mr. Chairman. You have some very important witnesses, not the least of which is our distinguished Governor. Thank you, again, for allowing me to say a few words and thank you, again, for your outstanding efforts on behalf of this vital project.

Thank you, Senator.

Senator DECONCINI. Thank you. I know you have other commitments as a member of the Armed Services Committee, so when you have to leave, just feel free to do.

Governor, it is a pleasure to welcome you here. I share this opportunity to chair this hearing. I have chaired other ones, not for the Central Arizona Project, but for Chairman Johnston and the staff of this committee.

Governor, it is kind of an emotional time for me to say that this will be the last time as Governor of Arizona that you will appear before this committee. You have done so now on a number of occasions.

You have served our State for a long, long time. Fifty years is a long time for anybody to do public service. You have done so in such an exemplary manner. I do not believe anyone in the history of Arizona, Senator Osborne or anyone else, will ever match the contribution you have made.

I am saddened at that fact that you are leaving public office, but we know in Arizona that Rose Mofford will be a contributor all her life and will continue to help. You have long been a personal friend of mine and my family, and I am most grateful.

I tell people all the time, when I went to work in the capitol for Governor Doddard, it was Rose Mofford who told me not only where the men's room was but how to get along with the legislature, with the attorney general, and other people there who were of other parties, and so I want to extend a warm welcome. Before I have you give your statement, Governor, let me just read a statement into the record here regarding several projects we want to take up today.

CENTRAL ARIZONA PROJECT

As I stated on a number of occasions, my highest priority since coming to the U.S. Senate has been completion of the Central Arizona Project. I worked with Senator Goldwater for 10 years on that, Members of the House of Representatives and with Senator McCain since he came in 1986. This project brings the Colorado River water to the cities and farmlands of Arizona in order that we may prosper and grow as we have in the past.

Thanks to the continued support of this committee and the administration as well as the hard work of many in this room who have labored for years and years and years. Mr. Plummer just told me that he was here when it was first authorized by the Government and has worked on it ever since, so I am especially pleased with the $198 million in funding request for the Central Arizona Project in the fiscal year 1991 budget. By allowing the Bureau to work at full capacity on this project, the administration has demonstrated a real commitment to see that it is completed on schedule and our goal of water in Tucson by 1991 is met.

OTHER ARIZONA WATER RESOURCE PROJECTS

I am also pleased with the level of funding requested for the safety of dams work in Arizona. The Department recognizes the need to ensure that these structures are brought up to national standards in a timely fashion in order to protect the people downstream. The $5 million that has been requested for Coolidge Dam is especially worthwhile and very important. These funds will allow the renovation of this structure to proceed at full speed.

With respect to the Corps of Engineers' budget request, it is also for the most part favorable to Arizona. I am especially pleased that the President's request includes funding for the Rillito River project in Pinal County. This is something that I have worked a long time with, and quite frankly, we would not have it, if it was not for the fact that Mr. Darman, the OMB Director has been cooperative with this particular flood project.

In this area, however, we need to get the Clifton flood control project authorized and funded. The amount included in last year's bill will allow the Corps to complete preconstruction engineering and design pending the authorization and the appropriation of funding so construction can commence on the project sometime in 1991, hopefully. I am pleased that the Clifton project was included in the 1990 water resource bill when it was introduced in the Senate.

Also, I intend to work with my colleagues on this committee to secure the funding that will allow the Corps to proceed with this long-awaited and much-needed project. The Clifton flood control project has long been a priority of this, Senator, and I am anxious to see it completed.

Lastly, I am very pleased to see that the administration has requested $23.8 million for the Salt River Pima-Maricopa settlement. This amount satisfies the Federal Government's outstanding obligation under the settlement reached. I am pleased to see that the administration is committed to fulfilling its obligations in a timely manner.

While it does not come under this committee's jurisdiction, it affects many of the projects that we fund. I look forward to working with the committee and particularly, Senator Johnston, who has been a real friend of Arizona, and Senator Hatfield of Oregon who has stood with us under many, many difficult times on behalf of the Central Arizona Project.

Governor, you may proceed in any way you like, and the floor is yours.

STATEMENT OF HON. ROSE MOFFORD, GOVERNOR OF ARIZONA

ACCOMPANIED BY WILLIAM PLUMMER, DIRECTOR, DEPARTMENT OF WATER RESOURCES

Governor **Mofford**. Thank you. Let me thank you for those kind remarks that were made. It is with regret I will not be attending the next meeting; however, I will continue to be a strong supporter of the Central Arizona Project.

Mr. Chairman and members of the committee, I appreciate this opportunity to appear before you once again to urge support of appropriations for the water resource projects which affect the State of Arizona.

My comments to you today will be brief. I have, however, brought more detailed written testimony with me and have submitted it for your consideration. I am gratified that I am able to once again give testimony concerning Arizona water needs.

WATER CONSERVATION AND MANAGEMENT

Responsible water conservation and management are a vital part of the existence of our State. Over the past several decades we have taken this responsibility seriously and have enacted a comprehensive ground water management code. I have also asked the legislature to enact measures that will enhance our already stringent water conservation laws. Arizona communities are continuing to contribute on their own to the efficient and effective use of our water. They are continuing to plan and construct facilities which will unable them to use water that is supplied by the Central Arizona Project.

These cities have already expended or committed more than $200 million for new treatment plants and related distribution systems. Agricultural users have also expended substantial funds and made commitments to use Central Arizona Project water. Over 700 miles of distribution systems and pipelines have been completed on a cost-sharing program with the Bureau of Reclamation.

However, as you all know, conservation alone will not bring enough water to a State that is for a large part an arid desert land. It is for that reason that our efforts continue to be directed to the completion of the Central Arizona Project, and this includes dam safety features on the Salt, Verde, and Agua Fria Rivers.

The major feature of this project is the aqueduct which when completed and will run from Lake Havasu to Tucson, AZ. Of the planned 336 miles of this aqueduct system, 296 miles are operational and 34 miles are currently under construction. Construction of the final 5 miles of aqueduct will begin this year. Delivery of water to Tucson will substantially reduce ground water pumping. It will also preclude potential Federal penalties which would be incurred by nondelivery of water to the San Xavier and Tohono O'Odham Reservations.

PLAN 6 ACTIVITIES

In addition, we must continue the work done under plan 6. The projects designated by this plan include the construction of the New Waddell Dam on the Agua Fria River, which is nearing the halfway point in its construction.

Progress continues to be made on the safety of dams modification of the six dams on the Salt and Verde Rivers. These structures contain reservoirs which provide the surface water supply for the Phoenix metropolitan area. We must also satisfy Federal obligations detailed in the Indian water rights settlement and guarantee the delivery of water to Indian lands.

A portion of the funds provided to the Central Arizona Project would provide new delivery facilities and ensure that delivery. I strongly urge you to approve the recommendations of the President for the appropriation of $182.3 million to the Central Arizona Project water development features. It is essential that all features of this project be completed in a timely manner if we are to ensure a balance between supply and demand and alleviate our dependence on groundwater.

This year I would once again like to request your continued support, sir, for some other water-related projects. My written testimony offers more details concerning them, but let me touch upon them briefly in my oral testimony.

We urge you to support the President's requested appropriations for the Bureau of Reclamation Colorado River water control program, various flood control projects throughout the State, and the Ground water recharge demonstration project at the Rillito site in Tucson.

In conclusion, Mr. Chairman, I would like to state that the testimony that I have given you today represents a consensus of many of those interested in water resource development in Arizona, including the Central Arizona Water Conservation District. I would once again like to thank the committee for the opportunity to bring our concerns to your attention and to ask for your continuing support for the water resources development projects in Arizona. Thank you.

Senator DECONCINI. Thank you, Governor, very much.

I understand that former Governor Jack Williams is with us today. Governor Williams served Arizona both as mayor of Phoenix and as Governor, of course, during a very crucial time.

Governor, would you please stand up, if you are with us?

Thank you. Glad to have you with us.

I asked my former colleague and good friend Eldon Rudd to join us who served 10 years in the House of Representatives on the Appropriation Committee and on the subcommittee that funded this project. Do you have any opening statements?

Mr. RUDD. Everyone knows that water is the most important, the most vital resource for life on this planet, and I want to thank you personally, Mr. Chairman, for the hard work that you have engaged in through the years here in the Senate and in Arizona and your family as well in Arizona. Thank you.

[The statement follows:]

STATEMENT OF GOV. ROSE MOFFORD OF ARIZONA

I. INTRODUCTION

Mr. Chairman and members of the committee, I want to thank you for the opportunity to make this statement on behalf of the people of the State of Arizona.; We appear before you once again in support of funding for the various water-related projects in our State.

There are several projects and programs for which we are asking your support: the Central Arizona Project, including safety of dam features and distribution systems; the Colorado River salinity control program; groundwater recharge and weather modification programs and various Corps of Engineers flood control projects.

II. CENTRAL ARIZONA PROJECT

o Introduction

At the top of our list of priorities is the Central Arizona Project which was authorized in 1968 by the Colorado River Basin Project Act. It seeks to provide a facility for Arizona to divert its unused entitlement of Colorado River water to water deficient areas of the State. Since construction began, it has become even more apparent that the completion of the project is essential to Arizona's management of its limited water resources and to the achievement of its goal to reduce its dependence on a diminishing supply of groundwater.

Arizona is firmly committed to the requirement that Central Arizona Project water will be put to uses commensurate with conservation practices and consistent with the intent of the Colorado River Basin Project Act. In 1980 the State passed a comprehensive groundwater management law aimed at assuring a balance between supply and demand in most of the CAP service area by the year 2025. I cannot over emphasize the point that if we are to achieve this goal it is essential that all features of the project be completed in a timely manner.

Arizona appreciates the fact that consistent levels of Congressional appropriations have allowed the Bureau of Reclamation to maintain the construction schedule of the Central Arizona Project. There has been excellent and steady progress since construction of the project began in 1973. Last year was no exception. This year and fiscal year 91 will be the peak years for expenditures on the project. Over $500 million in construction activity is scheduled for these two years.

For fiscal year 1991, the President has recommended an appropriation of $182.3 million for the Central Arizona Project. I strongly urge your approval of this recommendation.

o Central Arizona Project

The backbone of the Central Arizona Project is the aqueduct which when completed will extend about 336 miles from Lake Havasu on the Colorado River to the south boundary of the San Xavier Indian Reservation near Tucson.

Its attendant pumping stations and distribution systems will allow deliveries to municipal, industrial, and agricultural customers, and to Indian reservations throughout Central and Southern Arizona.

Of the 336 miles of aqueduct system, 296 miles are operational and 34 miles are currently under construction. Construction of the final 5 miles of aqueduct will begin this year. Initial deliveries of test water to the City of Tucson will be made later this year. However, it will be early 1991 before the City will put CAP water to use.

Since 1985, more that 1.6 million acre-feet of Colorado River water have been diverted from Lake Havasu to Central Arizona. Last year water was delivered to eight cities, twelve agricultural districts and one Indian community. Most of this water has been delivered to agriculture and replaces groundwater pumping, allowing the project to fulfill one of its primary goals, which is to reduce the State's groundwater overuse.

The main stem aqueduct construction to Tucson must continue to be a priority for two reasons. First and most obvious, the water delivery to the Tucson area users will substantially reduce groundwater pumping in the largest city in the Nation totally dependent on groundwater.

Second, the Southern Arizona Water Rights Settlement Act of 1982 committed the delivery of water to the San Xavier Reservation and Schuk Toak District of the Tohono O'Odham Nation by 1992. Delay beyond this date will impose serious financial penalties on the federal government.

There have been other returns in addition to the obvious benefits realized from reducing groundwater pumping in Central Arizona. As an example, through an agreement reached among the Gila River Indian Community, the San Carlos Apache Indian Community and the San Carlos Irrigation Project (SCIP), the Bureau of Reclamation was able to construct a canal interconnecting the CAP and the SCIP systems with funding provided under the CAP's Indian Distribution System authority, CAP water will be purchased to replace water that the Gila River Indians are entitled to receive from San Carlos Reservoir. Because of the drought conditions on the Gila River these CAP deliveries allowed a minimum pool to be maintained at San Carlos Reservoir, thus preventing a large scale fish kill in the lake.

Arizona cities and agricultural districts are continuing to plan and construct facilities which will enable them to use CAP water. New treatment plants have come on line for the cities of Glendale, Mesa, Phoenix and Scottsdale. These cities have already expended or committed more than $200 million for these new plants and related distribution systems.

The City of Tucson continues construction of a $70 million water treatment plant and $170 million worth of modifications to their distribution system in preparation for the arrival of CAP supplies in 1991.

- **Distribution Systems for Non-Indian Agricultural Subcontractors**

Distribution systems for non-Indian agricultural subcontractors are also an element of the Central Arizona Project. These systems assure the planned use of project water. Agricultural subcontractors for project water have already completed over 700 miles of distribution system pipelines and canals.

The various irrigation districts have assumed substantial risk by issuing over $75 million of general obligation bonds in order to provide up-front financing and cost-sharing of these distribution systems.

In addition to the $182.3 million, the budget presented by the President also requests $2.0 million for continued construction of non-Indian distribution systems in fiscal year 1991. Appropriation of these funds will move towards completion of various irrigation distribution systems of irrigation districts in Maricopa and Pinal counties. I urge your approval of these requested funds to assure completion of this portion of the project.

- **Distribution Facilities for the Indian Reservations**

Continued construction of distribution facilities for the Indian reservations is a component of the Central Arizona Project that must also be emphasized.

Funding of Indian distribution facilities is important not only to provide delivery of water to the Indian lands, but also to satisfy federal obligations in Indian water rights settlements. A total of $15.1 million of the recommended $182.3 million is for these purposes.

The Salt River Pima-Maricopa Indian community has recently concluded a water rights settlement agreement with the State of Arizona, the Salt River Project, the Cities of Phoenix, Glendale, Scottsdale, Mesa, Tempe and the Town of Gilbert, as well as the Roosevelt Irrigation District, the Roosevelt Water Conservation District and the Central Arizona Water Conservation District. The United States Government ratified and confirmed this agreement with P.L. 100-512; the Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988.

The Settlement Act provides that $10 million of the funds requested is to be appropriated under authority of the Colorado River Basin Project Act for the construction of new delivery facilities for Central Arizona Project water to Salt River Indian community lands.

The President's fiscal year 1991 budget recommends the remaining $5.1 million of the total $15.1 million request be used to initiate construction of these facilities. Arizona supports his recommendation.

In addition to the funding recommendation for the Indian portion of the CAP, $11.2 million was recommended for the Bureau of Reclamation to construct distribution systems on the Tohono O'Odham Reservation. This $11.2 million is an increase in the original authority provided in the Southern Arizona Water Rights Settlement Act of 1982. I urge your support of these appropriations to fulfill the obligation for the Federal Government pursuant to the Settlement Act.

- **Plan 6**

Arizona is again requesting your continued support for an appropriation for what is commonly known as Plan 6. Plan 6 is the regulatory storage division of the Central Arizona Project and includes the authorized safety of dams modifications on the Salt and Verde River reservoirs. Projects included in this plan are the New Waddell Dam on the Agua Fria River, enlargement of the Roosevelt Dam of the Salt River, and safety of dams modifications of existing Horseshoe, Bartlett, and Stewart Mountain Dams on the Verde and Salt Rivers.

I am also pleased to report that progress continues to be made on the safety of dams modifications at the six dams on the Salt and Verde Rivers. These structures contain the reservoirs which provide the surface water supply for the Phoenix metropolitan area.

You may recall from our previous testimony and your visits to Arizona that these dams sustained substantial damage during three floods in 1978, 1979 and 1980. Phoenix residents suffered more than $100 million in damages to real and personal property during those floods.

Fortunately, those floods prompted a thorough review of federal dams in Arizona that concluded, among other things, that although the dams met safety standards at the time they were built some 50 and 75 years ago, they do not meet current state-of-the-art criteria.

Without necessary upgrades, the safety and security of the 1.8 million or so residents of the Phoenix area would be threatened in the case of the maximum probably flood. That is, the worst possible flood which experts predict could occur - more than four times as large as the one experienced in 1980.

The President's budget this year requests $3.3 million for Stewart Mountain Dam on the Salt River, $14.2 million for Theodore Roosevelt Dam on the Salt River, $2.5 million for pre-construction planning at Bartlett Dam on the Verde River and $800.000 for pre-construction planning at Horseshoe Dam on the Verde.

These amounts will be sufficient to keep these very important projects on schedule.

Construction at New Waddell Dam, the project's regulatory component, is nearing a half way point. The safety of dams modifications to Stewart Mountain are nearly complete while the modification of Roosevelt Dam is just beginning.

Plan 6 also provides flood control, regulatory storage, conservation, safety of dams and recreational benefits to the project users and the public in general.

Arizona has taken on substantial financial responsibilities to support Plan 6 water related projects in the State.

In 1986, several Arizona entities entered into a historical cost-sharing agreement with the Secretary of the Interior to assure financial support of Plan 6 of the Central Arizona Project. This agreement provides that Arizona will advance funds towards the completion of Plan 6 facilities.

As of January 1, 1990, over $130 million in non-federal funds have been expended toward the construction of Plan 6 facilities. With the President's recommendation of $113 million for Plan 6 CAP features and $21.1 million for safety of dams features the Federal Government continues to fulfill its obligation under the cost-sharing agreement by appropriating sufficient funds to complete the remaining Plan 6 facilities.

As a result of the June 1987 agreement between the Arizona Congressional delegation and the National Coalition to Stop Cliff Dam, Plan 6 was modified to exclude Cliff Dam.

The 1987 agreement, however, recognized the need to identify appropriate flood control solutions on the Salt and Verde Rivers and to find a water supply as a replacement for the one which would have been developed by Cliff Dam. The Bureau of Reclamation has recently terminated further study for flood control on the Verde River because no flood measures within the Bureau of Reclamations CAP authority are economically justified.

Furthermore, reasonably priced replacement water for the supplies lost by excluding Cliff Dam has not yet been identified. The State of Arizona is discouraged by these events.

In addition to the Safety of Dams work associated with Plan 6, the Bureau of Reclamation is also modifying Coolidge Dam on the Gila River. Arizona is pleased to see the President has recommended $5.1 million dollars to continue the pre-construction activities at Coolidge Dam as this dam has been identified as a top priority among those in the United States needing repairs.

o Corps of Engineer Projects

I would now like to address the matter of the Corps of Engineers projects in Arizona. Arizona is pleased that the Corps is continuing with planning and construction on the various projects in Maricopa County and is requesting authorization in the Water Resource Development Act of 1990 for projects at Nogales and Clifton.

I request your support of these authorizations. When these projects are authorized, Arizona requests the appropriation of funds consistent with the Corps capability to construct project features in a timely manner. We also ask for the appropriation of funds for the currently authorized Holbrook Dike and Levee Project.

I am encouraged to see that the Corps of Engineers is providing funds for two reconnaissance level studies, one for the Gila River Indian Community and one with the City of Tucson. Arizona supports continuing funding of these studies, as well as requesting funding for Central Maricopa and Hassayampa River reconnaissance level studies and a feasibility study of the Lower Santa Cruz River in Pinal County.

I want to thank you for the funds you provided in Fiscal Year 1990 to continue the design work on the flood control project along the Rillito River in Tucson. The President's Fiscal Year 1991 budget recommends $610 thousand, which should nearly complete the design work. I strongly support continued funding of this vitally needed flood control project.

I am also encouraged with many of the other efforts being made by the Corps of Engineers in Arizona. These include several promising Section 205 projects including Tangue Verde and Bisbee, Section 206 studies in Pinal County, Section 22 work on water supply and the continuing support of floodplain management activities. I would like to request the funding necessary to continue these activities.

III. COLORADO RIVER WATER QUALITY IMPROVEMENT PROGRAM

I would also like to take this opportunity to discuss the Bureau of Reclamation's Colorado River Water Quality Improvement Program.

When the Central Arizona Project becomes fully operational, use of Colorado River water in Arizona will represent over 60 percent of the state's average long term renewable water supply. Arizona is very concerned about the salinity level of this essential supply.

President Bush's budget includes $23.8 million for construction and planning of facilities under the Bureau of Reclamation's program.

This is a sizeable increase over this year's appropriation. I recognize that in time of budget constraints this is a significant commitment on the part of the President and that an attempt is being made to maintain the salinity of the Colorado River at or below the adopted and approved standards.

I urge you to fund this program at the level recommended in the President's budget for fiscal year 1991. For more details on individual projects, I refer you to a detailed statement which has been provided to your committee by Jack A. Barnett, Executive Director of the Colorado River Basin Salinity Control Forum.

Regarding another area of salinity concern, I am pleased to see the President continues to include in his budget funding for the Yuma Desalting Project. The $14.3 million will allow for the construction of the plant to move ahead on a timely basis.

IV. WEATHER MODIFICATION

Turning to another issue important to Arizona, I want to emphasize our optimism over results of the investigations into weather modification conducted recently on the Mogollon Rim in Central Arizona.

Arizona believes it can augment its limited water supplies through a long term program of cloud seeding. Working with the Bureau of Reclamation, through cost-sharing arrangements, it has developed a research program which is now underway.

The results of this program will not only help Arizona in water management efforts, but may also extend the techniques to the Colorado River basin where substantial benefits will be realized by all water users in the basin and by the federal government.

The President's recommended budget contains no funding for the Bureau of Reclamation's Atmospheric Water Resource Management Program for FY 1991. A number of western states have indicated a willingness to participate in weather modification programs and, in aggregate, to provide matching funds of $3.2 million for such efforts.

Therefore, I ask that you restore the Atmospheric Water Management Program, and appropriate $3.2 million to the Bureau of Reclamation so that this important program can continue.

o Groundwater Recharge

Groundwater Recharge is a program which promises to help Arizona manage its limited water resources as well as its groundwater overdraft.

One recharge site, the Rillito site in Tucson, has been selected by the Bureau of Reclamation as a demonstration project under the High Plains States Ground Water Demonstration Project Act of 1983.

The President's budget recommends $4.8 million for the High Plains States Program. Of this total, $166,300 is identified for work at the Rillito site. I support this project and urge your support.

V. CONCLUSION

In summary, I urge your continued support of funding for water related projects in Arizona. The Central Arizona Project with related safety of dams and distribution system needs for both Indians and non-Indians, is at the top of the Bureau of Reclamation's list with a total request of $205.3 million.

Other projects and programs I have mentioned (Colorado River Salinity Control, weather modification, groundwater recharge and flood control) are also of great importance to Arizona. It is vital that these joint efforts with the federal government be continued.

I would like to add that my statement before you today is a joint effort of many of those interested in water resource development in Arizona, including the Central Arizona Water Conservation District.

Mr. Chairman, I thank you and the committee for your continuing support.

WEATHER MODIFICATION PROGRAM

Senator **DECONCINI**. Thank you, Congressman Rudd.

Governor, let me ask you a couple of questions. Your testimony points out the importance of weather modification as a possible way to augment our limited water supply. What is the status of these weather modification studies in Arizona, and what kind of activity does the State have planned with the Bureau of Reclamation concerning long-term research assuming the weather modification program is funded?

Governor **MOFFORD**. Weather modification or cloud seeding has the potential for increasing the scarce water resources in the West and specifically, in Arizona. There should be considerable research studies made by the Bureau of Reclamation, and they have been conducted over the past several years.

These studies have been cost shared by the State, the Salt River project, and the Central Arizona Water Conservation District, and the early results indicate that there is a potential to increase winter snowfall. But much more study is necessary for an operational program before this program can be initiated. I feel that the Bureau's expertise in this area makes them the best agency to carry out the studies on a cost-sharing basis with the local interests.

Senator **DECONCINI**. Arizona will be able to meet it's part of the cost sharing?

Governor **MOFFORD**. Yes.

INDIAN WATER RIGHTS SETTLEMENT

Senator **DECONCINI**. Thank you, Governor. One of the touchy situations around here for a long time has been the Indian water rights settlement in our State as well as with the previous administration and now this one, and they are moving ahead I am pleased to say.

As you know, Governor, the administration has requested the funding needed to fulfill the Federal obligation for the settlement of the Salt River, Pima-Maricopa Indian community. I am pleased that they have done this because I am sure, as you will recall, it took us a long time to negotiate this, and everybody had to give, including the Indian community and everyone else in our State. Can you please bring the committee up to date with the State's effort to resolve other outstanding Indian water rights issues in Arizona?

Governor **Mofford**. At this time, the State is involved in two ongoing settlement negotiations; namely, Fort McDowell and Gila River Indian communities. Several other tribes have indicated interest in initiating settlement negotiations very soon; however, the State of Arizona fully supports negotiation of Indian water rights settlements rather than lengthy and costly litigation.

Senator **DeConcini**. Governor, I know Mr. Plummer has been involved in some of those things, and he may have the answer if you do not.

Can you give us an update on the Federal Government's participation? Are they willing partners now? Are they at the table? Are there any problems?

Mr. **Plummer**. Mr. Chairman, they are at the table, and I think the talks are proceeding very, very well.

Senator **DeConcini**. Good.

Mr. **Plummer**. I might add, also, you mentioned the Federal Government's obligation on the Salt River, Pima-Maricopa. Governor Mofford signed the appropriations bill last year and Arizona took care of the State's share for both years. The second year being fiscal year 1991 is in for fiscal year 1991.

WATER TRANSFER REGULATIONS

Senator **DeConcini**. Thank you.

Governor, on the matter of water transfers, I asked you some questions last year about it. You gave me an update then. I wonder if you can give us an update on what the legislature has done, if anything, regulating water transfers and have there been any proposals brought before the legislature? What do you think is going to happen.

Governor **Mofford**. Well, there have been several bills introduced, and Mr. Plummer may know more currently on what is taking place, but it would be very difficult for me to predict at this time the outcome of any legislation pertaining to water resource transfers.

Senator **DeConcini**. Mr. Plummer, can you add anything or care to?

Mr. **Plummer**. Mr. Chairman, a bill was introduced in the Senate this session which is very similar to what passed in the House last year but died in committee on the Senate side. That particular bill did pass one of the Senate committees but was not heard by a second committee to which it was referred.

There are two other bills that have been introduced which hinge on transfers to some extent. They deal with what we call regional water authorities. One is the Tucson area and one for the Phoenix area.

Those bills are in the process of being discussed. The Tucson bill has passed at least the committee, and I think it is ready to be passed in the full Senate. There are some references in those bills to how water is supplied to the regional areas. Whether or not it will be tied closely to water transfers is yet to be determined.

Senator DECONCINI. Thank you, Mr. Plummer.

Governor, thank you. That is all the questions I have.

Senator Garn has joined us. Do you have any questions?

Senator GARN. No; thank you. You adequately take care of Arizona. I do not need to interfere in any way.

Senator DECONCINI. Thank you, Senator. Thank you very much, Governor.

Governor MOFFORD. Thank you.

Senator DECONCINI. Thank you, Mr. Plummer.

Mr. PLUMMER. Mr. Chairman, one more thing. We have here sufficient copies and would furnish two other letters of support for Central Arizona Project appropriations. One is from the Metropolitan Water District for Southern California who has historically supported the Central Arizona Project, and we have one here for the record, if you desire. The other one is a letter of support from the Southern Arizona Water Resources Association.

Senator DECONCINI. We are pleased to have those and they will appear in the record.

[The statements follow:]

STATEMENT OF METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

The Metropolitan Water District of Southern California wishes to advise your Committee that it supports this year's appropriations for the Central Arizona Project. As the Project moves into its concluding phase, the realization of its benefits depend greatly on adequate funding so that construction continues on schedule.

Metropolitan has been supportive of the Project since passage of its authorizing legislation in 1968. At that time, benefits for the entire Colorado River Basin were developed and the needs of central Arizona were recognized. Today, along with other parts of the West, the Pacific Southwest in expecting its fourth year of drought dramatizing the urgency of completion of the Project.

Anticipated completion of the Project is also enabling Arizona to resolve many long standing issues of Indian water rights, permitting creative solutions that are beneficial to both tribal groups and non Indian interests. Your Committee's thoughtful consideration of the needs of Arizona will have widespread benefits.

STATEMENT OF SOUTHERN ARIZONA WATER RESOURCES ASSOCIATION

The Southern Arizona Water Resources Association would like to take this opportunity to thank you for your ongoing and generous support of the Central Arizona Project. Because of your consistent attention steady progress has been made toward completion and the Central Arizona Project will deliver water to Tucson next year.

This progress is particularly gratifying of those of us in Tucson at the "end of the pipe" because it has been a long and expensive project. It is a fully appreciated that our major cities now have a renewable dependable water supply.

We come before you again this year to seek an appropriation of $182.3 million for fiscal year 1991. That is the recommendation in the President's budget and we strongly recommend approval of this amount to continue the fine progress on this much needed water system. This year marks the peak year of construction activity and appropriations will taper off after this year. The next major issue for funding in the Tucson area is terminal storage in the 1992-93 budget.

Tucson is conscious of its need to practice water conservation and has done so providing a worthy model for other communities. Tucson is also preparing to utilize CAP almost entirely for its drinking water system so that the overdrafting of well water can cease and a resource balance can be achieved.

The Southern Arizona Water Resources Association supports the entire Central Arizona Project with its distribution system both Indian and non-Indian and Plan Six with its regulatory features. The project works together as a whole to serve all of Arizona. The water resources brought by the CAP become the central lifeline for Arizona's future and we are not unaware how important each year's appropriation is to us in Tucson.

Your continued support in this 1991 budget is essential in bringing that water to Tucson.

Senator DECONCINI. Senator, please come forward. We are going to take testimony out of order. Excuse us. Please join us, Senator. You want to speak on what particular project?

MNI WICONI WATER PROJECT

STATEMENT OF HON. THOMAS A. DASCHLE, U.S. SENATOR FROM SOUTH DAKOTA

Senator DASCHLE. Mr. Chairman, I would like to speak for a couple minutes. I will be brief.

Senator DECONCINI. Please proceed.

Senator DASCHLE. My testimony is in behalf of the Mni Wiconi project. We came before your Senate committee last year and presented the documentation and all of the statistical information that the committee considered as it made its decision last year with regard to funding, and our people are here, and later on this morning, they are going to be doing that again.

I have some lengthy documentation which I will provide for your consideration. I would hope that the committee will take a look at it, but I have just one message, and it is a pretty simple one if I could just relate one little experience to you.

When I was talking to some of our Indian people about this particular project sometime ago, I thought I was speaking with as much information as any one Senator could have. What I did not realize is that about 30 percent of the Indian people today still carry all of the water they use in milk cartons having to go all the way to the Missouri River, some 100 miles in some cases, bringing milk cartons filled with water that they use for a week and go back to the river again with more milk cartons the next week to get the water they need.

That is really what we are talking about here. We are talking about a water delivery system that for the first time in the history of our State will provide water that Indian and non-Indian people simply do not have today. It is without question the worst quality water we have in the State. Without question, people are getting sick, and in many cases the health factors alone have caused grave concern across western South Dakota so that is really what we are doing is presenting the best case we can from a statistical as well as from a human point of view.

Without this water, a lot of people out there simply are going to continue to get sick. It is much more than a water project. It is a health project, and stopping people from having to carry milk cartons to the Missouri River is what this is all about, and I appreciate your willingness and support.

Senator DECONCINI. Thank you, Senator Daschle. I know you worked on the Special Committee on Investigations investigating Indian problems on Indian lands and came across many, many problems, including health problems, and I think you make a very good argument on the basis of this one being a health problem as much as a water project.

Senator Pressler, we are very pleased to have you.

STATEMENT OF HON. LARRY PRESSLER, U.S. SENATOR FROM SOUTH DAKOTA

Senator PRESSLER. Thank you, very much. I join in the remarks of Senator Daschle in strongly advocating this project. South Dakota desperately needs safe drinking water. The droughts of 1988 and 1989 combined with other problems have left tens of thousands of people in western South Dakota desperately in need of help.

I have long been an advocate of water pipelines to use our Missouri River water in a positive way, and this particular project, as has been pointed out, would serve over 20,000 Indian and non-Indian residents in 7 counties and the Pine Ridge Indian Reservation.

Shannon County, which is included in the reservation, is the poorest county in the entire United States with a per capita income of approximately $3,000 annually. Its economic development efforts have been hampered severely by the lack of decent water resources. A crucial first step to develop this area is to provide safe, clean drinking water for these people.

The project has virtually unanimous support. Environmental groups, area water development districts, and many other organizations have endorsed the project. All these people recognize the desperate need for good quality water in the area.

On October 24, 1988, President Reagan signed into law the Mni Wiconi Project Act of 1988. That authorization approved planning and construction for three different water projects which are badly needed in South Dakota. We are grateful for the $500,000 this committee appropriated for the Mni Wiconi project last year. It is my hope that you will recognize a crucial need for this project and will support a fiscal year 1991 appropriation of $1.5 million.

South Dakota has demonstrated strong support for the Mni Wiconi plan, as evidenced by the State's promise to fund 35 percent of the non-Indian portion of the project. Local citizens have been working for over 20 years to get the project started and have raised a substantial amount of money to make their dreams a reality.

We are all aware of the difficulties presented by budget constraints, but a fiscal year 1991 appropriation of $1.5 million will allow the completion of the final engineering report, completion of the environmental assessment and definition of the operation and maintenance plan. Completion of these and other documents and data collection will allow for initial construction in 1992.

As you are well aware, water development in South Dakota has a long history. In the 1940's South Dakota agreed to sacrifice over 500,000 acres of farmland for the construction of four mainstem dams on the Missouri River for hydroelectric power, flood control, and navigation benefiting downstream States.

In return for the sacrifices South Dakota made for the construction of the dams, the Federal Government made a commitment to South Dakota. That commitment was to provide water development in our State. The Federal commitment to South Dakota has not been fulfilled. By providing this requested $1.5 million appropriation and future appropriations to complete the Mni Wiconi project, a small part of this commitment to South Dakota would be realized.

Mr. Chairman, in conclusion, the residents desperately need good quality water for domestic use. The health issue is a key factor. Residents are willing to pay for this water, but they need assistance in building the project. The proposed pipeline project is the only feasible means of providing the area with good quality water.

We know the necessity of good water. Life cannot be sustained without it. I believe this appropriation would begin a water project that would save lives and help revitalize one of the poorest areas of the Nation. Please take special note of the urgent need in this request and support funding for this project because I believe it is a public health project as much as anything. Thank you very much.

Senator DECONCINI. Thank you very much, Senator Pressler. Your testimony will be helpful to the subcommittee.

Senator Pressler and Senator Daschle, we thank you both for being here.

We are now going back to hear from the Flood Control District of Maricopa County. Mr. Jim Bruner, chairman of the Maricopa Board of Supervisors, and Mr. Sagramoso will be joining him.

Mr. Bruner, we will put your full statement in the record. If you would like to highlight it for us, please proceed.

PHOENIX AND VICINITY FLOOD CONTROL PROJECT

STATEMENT OF JAMES D. BRUNER, CHAIRMAN, FLOOD CONTROL DISTRICT BOARD OF DIRECTORS, AND MARICOPA COUNTY BOARD OF SUPERVISORS

ACCOMPANIED BY DANIEL E. SAGRAMOSO, CHIEF ENGINEER AND GENERAL MANAGER

Mr. BRUNER. Thank you, Mr. Chairman, members of the committee and Congressman Rudd. My remarks will be very brief. I would like to take the opportunity to request your support of funding for three Corps of Engineers projects for which the Flood Control District of Maricopa County is a sponsor.

At the top of my list is the Phoenix and vicinity flood control project, which was authorized in 1965 and is a comprehensive project consisting of four dams, structural work on three natural streams, and a major diversion channel. The project provides flood control protection for a large part of the metropolitan Phoenix area.

The four dams and structural work in the streams are complete. The Arizona Canal diversion channel, called ACDC, is the main feature of this project. The 16.5-mile-long channel will intercept storm flows from the north and move the water safely through the urban area.

The first two reaches or sections have been completed and construction of phase 3 began August 1989 and is expected to be completed in May 1991. Construction of reach 4, the final portion, is scheduled to begin in October 1990.

We appreciate the congressional appropriations that allowed the project to steadily proceed. The President has recommended an appropriation of $36.7 million for fiscal year 1991. This includes $6.9 million to complete the construction of reach 3, $25 million to begin the construction of reach 4 and $3.6 million for engineering and construction management. I strongly urge your approval of the President's recommendation.

The need to appropriate funds to complete the existing construction contract for reach 3 is obvious. Equally important are the funds to build ACDC's reach 4. Reach 4 is an integral part of the project. It is designed to provide a safe outlet for several large washes including Cudia City Wash at reach 4's upstream end. In 1972 flooding primarily from this area damaged over 2,700 homes and businesses. Since 1972 intense development has occurred in the area to be protected by reach 4.

The flood control district is firmly committed to completion of this project. The district's share of the overall project cost is about 43 percent. Our costs in reach 4 are over $30 million, of which $18.5 million has already been spent or committed for rights-of-way and facility relocations.

HASSAYAMPA RIVER AT WICKENBURG, AZ, STUDY

Second on our list is the Hassayampa River at Wickenburg study. A major part of the developed area of Wickenburg would be inundated by a 100-year flood; however, the President's recommended budget contains no funding for this study. The Corps of Engineers has indicated the capability of devoting $300,000 of effort to initiate and complete this study in fiscal year 1991. I urge you to appropriate $300,000 so this critically needed study can be conducted.

CENTRAL MARICOPA COUNTY DRAINAGE AREA STUDY, ARIZONA

Finally, I request your help for the central Maricopa County flood control study. The flood control district is vitally concerned about the potential for significant flood damages in this area. For example, in 1963 a major storm flooded 6,500 acres in Phoenix and Glendale where currently about 46,000 people live and work.

Again, the President's recommended budget contains no funding for this study. The Corps of Engineers has indicated the capability of devoting $500,000 of effort to initiate and complete this study in fiscal year 1991. I urge you to appropriate this $500,000 so these essential studies can be conducted.

In summary, I urge your support for the Phoenix and vicinity project and for the two reconnaissance phase studies I mentioned. Mr. Chairman and members of the committee, the over 2 million people who live in Maricopa County thank you for your continuing support.

ARIZONA CROSS DIVERSION CANAL, REACH 4

Senator DECONCINI. Mr. Bruner, thank you and thank you for your leadership. I am pleased by your statement. It is so to the point on the Arizona cross diversion channel to provide flood control in Phoenix.

You probably have, as I have, had a number of people contact you about concerns expressed over that construction, particularly reach 4. Has the flood control district done anything to address any of those concerns that you can convey to the committee?

Mr. **Bruner**. Mr. Chairman and members of the committee, there are three or four areas that the neighbors have raised concerns about; one deals with authorization; a second deals with environmental impact statements; and third, the economic justification and the design itself. I think with regard to the first three, the authorization, the environmental impact statement, and the economic justification, additional studies have been made, and I think all of those support the project moving ahead.

The fourth area, the design stage, is what we are in discussion with the neighbors. Approximately 80 percent of reach 4 is in the city of Phoenix, and various officials, including the mayor of Phoenix, have gone on record in support of the project. The other 20 percent are in the town of Paradise Valley.

A portion of that would be covered as it relates to trying to move the road over to 32th Street. The balance of the area is being designed from an aesthetic standpoint that will blend in as best as possible with the city of Paradise Valley.

The city would like to have it tunneled or have a cover built over top of this. The Corps' position is that because of the significant incremental cost involved it would not feel it is fair and appropriate that they specialize and highlight that particular area. However, we are discussing with the town of Paradise Valley that they may at some point see fit to provide additional funds to cover that portion that is in their community. We are trying to address that.

Senator **DeConcini**. Thank you, Mr. Bruner, for that update. It is most helpful. I have no further questions.

The Senator from Utah or the Senator from Pennsylvania?

Senator **Specter**. I do not. Thank you.

Senator **DeConcini**. Thank you very much, Mr. Bruner.

[The statements follow:]

STATEMENT OF JAMES D. BRUNER

Mr. Chairman and members of the Committee, as Chairman of the Board of Directors of the Flood Control District of Maricopa County and Chairman of the Board of Supervisors, I appreciate the opportunity to request your support of funding for three Corps of Engineers flood control projects for which the Flood Control District of Maricopa County is the local sponsor. These projects are the Phoenix and Vicinity Flood Control Project, the Hassayampa River at Wickenburg Study, and the Central Maricopa County Flood Control Study.

PHOENIX AND VICINITY FLOOD CONTROL PROJECT

The Phoenix and Vicinity Flood Control Project, which was authorized in 1965, is a comprehensive multi-element project comprising four major dams, structural work in natural streams, and a major diversion canal. The four dams and the structural work in the Skunk Creek, the New River, and the Agua Fria River are essentially complete.

The Arizona Canal Diversion Channel (ACDC), consisting of four reaches (sections) for ease of construction and funding, is an integral part of the Phoenix and Vicinity Project, and is the essential element of this comprehensive project to provide flood protection to a large part of the Phoenix metropolitan area. The 16.5 mile long channel will catch storm flows from the north and channel the water through the urban area. The first two reaches (8.7 miles) of the ACDC have been completed. Construction of Reach 3 (3.6 miles from 23rd Avenue to 12th Street) and improvements on Cave Creek began in August 1989 and is expected to be finished in May 1991. Construction of Reach 4 (4.2 miles from 12th Street to 40th Street), the final portion, is scheduled to begin in October 1990.

The Flood Control District and the more than 2 million people of Maricopa County appreciate the congressional appropriations that have allowed the Phoenix and Vicinity Project to steadily proceed, beginning with the start of construction of Dreamy Draw Dam in 1972. The President has recommended an appropriation of $35,680,000 for this project for fiscal year 1991. This includes $6.9 million to complete construction of Reach 3 of the diversion channel, $25 million to begin the construction of Reach 4, and $3.6 million for engineering and construction management. I strongly urge your approval of the President's recommendation.

The need to appropriate funds to complete the existing construction contract for Reach 3 is obvious. Equally important are the funds to build the ACDC's Reach 4. Reach 4 is an integral part of the project designed to provide a safe outlet for several large washes, including Cudia City Wash at Reach 4's upstream end. In 1972, as documented in the U.S. Army Corps of Engineers October 1972 Report on Flood of 22 June 1972, Phoenix Metropolitan Area, Arizona, the flood flows primarily from these sources damaged 2666 homes, 15 apartment complexes, a high school, and 22 stores and businesses. Since 1972, the Phoenix metropolitan area has experienced a high growth period. This has resulted in the intense development of the corridor located south of and parallel to the ACDC in the Reach 4 protection area. Within this corridor, new office, commercial, apartment, and resort hotel development has occurred. Reach 4 is designed to protect against higher flood flows than occurred in 1972, and Reach 4 protection is absolutely necessary.

The Flood Control District is firmly committed to completion of the ACDC. The District's share of project costs is about 43% of the total. The Flood Control District's participation in Reach 4 is over $30 million, of which $18.5 million has already been spent or committed for rights-of-way and facility relocations, some of which are currently under construction and others are eminent.

HASSAYAMPA RIVER AT WICKENBURG STUDY

The Flood Control District considers the need for a solution to the flooding problems in the Wickenburg area to be of great importance. The study is authorized under broad basin planning authority for study of the Gila River and Tributaries included in the 1938 Flood Control Act. The President's recommended budget contains no funding for this reconnaissance phase study. The Corps of Engineers has indicated having the capability of $300,000 to initiate and complete the study in fiscal year 1991. I urge you to appropriate $300,000 so this critically needed study can be conducted.

The study area is centered about 60 miles northwest of Phoenix. The population of the Town of Wickenburg and surroundings has tripled over the last twenty years and is expected to continue to grow at a rapid rate. The largest recorded flood event occurred in 1970, when less than 100-year flows swept away homes, vehicles, and livestock along several miles of the Hassayampa River. A study conducted by the Corps in 1965 indicates that a major part of the commercial and residential area of Wickenburg would be inundated by a 100-year flood, and rapid growth has dramatically increased the potential for loss of life and serious damage to private and public property.

CENTRAL MARICOPA COUNTY FLOOD CONTROL STUDY

The Flood Control District is vitally concerned about the potential for significant flood damages in Central Maricopa County. This study also is authorized under broad basin planning authority for study of the Gila River and Tributaries included in the 1938 Flood Control Act. The President's recommended budget contains no funding for this reconnaissance phase study. The Corps of Engineers has indicated the capability of $500,000 to initiate and complete this study in fiscal year 1991. I urge you to appropriate $500,000 so this very essential study can be conducted.

Flooding in the Glendale/Maryvale urban area is a result of overland sheet flow and ponding behind obstructions, mainly the Sante Fe Railroad embankment and the Grand Canal. A major storm in August 1963, flooded approximately 6500 acres which now contain approximately 46,000 people and their homes and businesses.

In addition, a certain three-mile long wash, locally known as the 10th Street Wash in north central Phoenix drains a large part of the North Mountain Preserve and traverses many residential neighborhoods. As recently as July 1989, a summer thunderstorm caused the wash to overflow causing flooding damages.

CONCLUSION

In summary, I urge your support for the Phoenix and Vicinity project and the two reconnaissance phase studies.

Mr. Chairman and members of the Committee, on behalf of the citizens of Maricopa County, thank you for your continuing support.

STATEMENT OF FLOOD CONTROL DISTRICT OF MARICOPA COUNTY, AZ

Mr. Chairman and members of the Committee, I appreciate the opportunity to request your support of funding for three Corps of Engineers flood control projects for which the Flood Control District of Maricopa County is the local sponsor.

Phoenix And Vicinity Flood Control Project

At the top of my list is the Phoenix and Vicinity Flood Control Project, which was authorized in 1965. This comprehensive project consists of four dams, structural work in three natural streams, and a major diversion channel. The project provides flood protection for a large part of the Phoenix area. The four dams and the structural work in the streams are complete.

The Arizona Canal Diversion Channel (ACDC) is the main feature of this project. The 16.5 mile long channel will intercept storm flows from the north and move the water safely through the urban area. The first two reaches, or sections, have been completed. Construction of Reach 3 began in August 1989 and is expected to be finished in May 1991. Construction of Reach 4, the final portion, is scheduled to begin in October 1990

We appreciate the congressional appropriations that have allowed the project to steadily proceed. The President has recommended an appropriation of $35,680,000 for fiscal year 1991. This includes $6.9 million to complete construction of Reach 3, $25 million to begin the construction of Reach 4, and $3.6 million for engineering and construction management. I strongly urge your approval of the President's recommendation.

The need to appropriate funds to complete the existing construction contract for Reach 3 is obvious. Equally important are the funds to build the ACDC'S Reach 4. Reach 4 is an integral part of the project and is designed to provide a safe outlet for several large washes, including Cudia City Wash at Reach 4's upstream end. In 1972 the flooding primarily from Cudia City Wash damaged over 2700 homes and businesses. Since 1972, intense development has occurred in the area to be protected by Reach 4.

The Flood Control District is firmly committed to completion of the ACDC. The District's share of the overall project costs is about 43 percent. Our costs in Reach 4 are over $30 million, of which $18.5 million has already been spent or committed for rights-of-way and facility relocations.

Hassayampa River at Wickenburg Study

Next on my list is the Hassayampa River at Wickenburg Study. A major part of the developed area of Wickenburg would be inundated by a 100-year flood. However, the President's recommended budget contains no funding for this reconnaissance phase study. The Corps of Engineers has indicated the capability of devoting $300,000 of effort to initiate and complete the study in fiscal year 1991. I urge you to appropriate $300,000 so this critically needed study can be conducted.

Central Maricopa County Flood Control Study

Finally, I request your help for the Central Maricopa County Flood Control Study. The Flood Control District is vitally concerned about the potential for significant flood damages in this area. For example, a major storm in 1963 flooded 6500 acres in Phoenix and Glendale where, currently, about 46,000 people live and work. Again, the President's recommended budget contains no funding for this reconnaissance phase study. The Corps of Engineers has indicated the capability of devoting $500,000 of effort to initiate and complete this study in fiscal year 1991. I urge you to appropriate $500,000 so this essential study can be conducted.

Conclusion

In summary, I urge your support for the Phoenix and Vicinity Project and the two reconnaissance phase studies.

Mr. Chairman and members of the Committee, on behalf of the 2 million citizens of Maricopa County, thank you for your continuing support.

CLIFTON, AZ, FLOOD CONTROL PROJECT

STATEMENT OF HON. TERESA BENAVIDAZ, MAYOR, CLIFTON, AZ

ACCOMPANIED BY MARK FUCHS, CLIFTON CITY MANAGER

Senator DECONCINI. Next, is Mayor Teresa Benavidaz, the mayor of Clifton, accompanied by Mark Fuchs, the city manager.

Mayor, we welcome your statement here. If you have a full lengthy statement, we will be glad to put it in the record. Excuse me. Mayor, pleased to have you.

Ms. BENAVIDAZ. Thank you, Senator DeConcini. I have got a very short verbal statement that I would appreciate being read into the record.

Senator DECONCINI. We will put the whole statement in the record.

Ms. BENAVIDAZ. It is nice to be here with you and the committee members. I am Teresa Benavidaz, the mayor of Clifton. We are a small mining town located in Greenlee County on the freeflowing San Francisco River in southeast Arizona. The best and worst of my community can be summed up in three words: the San Francisco River.

The best because we are a beautiful, lush, riparian area with abundant wildlife surrounding. The worst because the San Francisco River periodically wreaks havoc and destruction having been identified by the Army Corps of Engineers as one of the most repetitive flooded areas in America.

I am here today to testify in favor of our U.S. Army Corps of Engineers' flood control project which is ready for funding after 7 years of hard work and is included in the Water Resource Act.

I would like to express my heartfelt thanks to you, Senator DeConcini, who has helped guide this local official on many occasions even prior to me being elected mayor for two terms while I served over a Citizen's Committee for Flood Control. It has been you that has provided the essential leadership to get this project through.

I would also like to thank you, Congressman Jim Kolby and Senator John McCain for their hard work and, of course, a very special thanks to Governor Rose Mofford who currently chairs the Clifton flood control task force who continues to support the project with local sponsor money and project coordination. In fact, our whole congressional delegation has been supporting this project. Add to this at least two colonels, two generals, and a troop of Corps and State workers. Without their hard work and expertise I would not be sitting here before you today.

This project is so essential to Clifton's future. Three councils have worked on and promoted this flood recovery project. We have involved the citizens in public participation meetings extensively.

Mr. Chairman, major floods have occurred in my community since before Geronimo's dad raised his horses there. Our most recent major flood was 1983. It was a horrible year for Clifton. The double whammy of a bitter copper strike in July, which meant many of our citizens lost their jobs, was followed by a flood of record in October where many of them then lost their homes and all their earthly possessions.

We have had two periods of high water since then. I and the others have worked for 7 long years to bring this answer to our town's flood control problems. Mr. Chairman, I am hopeful that your committee and Congress will put an end to our wait and approve the $11 million needed for this project this year.

The major floods in Clifton cost the taxpayers around $20 million each time they occur. Clifton has used the Army Corps as the cornerstone of our economic and social stability. The total cost of this project is $15 million, a one-time cost that would mitigate the flood hazards permanently.

I want to thank you for allowing me to take these few minutes of your time, and I hope and pray that we can build this project before another life is lost or another $20 million worth of flood damages roll down the San Francisco River. Thank you.

Senator DeConcini. Mayor, thank you very much. Your testimony is going to be very helpful not only for this committee but for the authorization committee as the well. We will use it when we go before them and try to get the project authorized. I think we have a good chance to do that, and we will continue to work on this project. Thank you very much for your testimony.

ADDITIONAL PREPARED STATEMENTS

I have some statements, one by John Lassan, president of the Salt River Project, and one from Pima County, AZ, which I want to make part of the record at this point. And a statement from Helen Harold regarding reach 4 of the Arizona Canal which will also be made part of the record.

[The statements follow:]

STATEMENT OF JOHN LASSEN, PRESIDENT, SALT RIVER PROJECT

Mr. Chairman, thank you for the opportunity to submit this statement on the Fiscal Year '90-'91 appropriations for water resources development in Arizona.

My name is John Lassen. I am president of the Salt River Project, the nation's oldest multi-purpose reclamation project.

The Salt River Project is comprised of the Salt River Project Agricultural Improvement and Power District and the Salt River Valley Water Users Association. Together, the Association, a private water delivery organization, and the District, a political subdivision of the State of Arizona, provide water and power to some 250,000 acres and about a half million customers in the Phoenix metropolitan area.

As an agent of the federal government, the Salt River Project operates six dams on the Salt and Verde rivers northeast of Phoenix. These structures impound the runoff from a 13,000-square mile watershed to provide the surface water supplies for agricultural, residential, recreational, municipal and industrial use in Central Arizona.

As manager and administrator of water rights, the Salt River Project is well-acquainted with the need to store surplus water in times of plenty, the need to conserve in times of scarcity and the need to deal equitably with competing interests at all times.

For example in the State of Arizona through most of the 1980s, runoff into the Colorado, the Salt, the Verde and the other rivers that serve our water needs was more than 175 percent of normal. Yet during the past two years, runoff has been about 60 percent of the median, and some of our reservoirs are low.

It is because of these wide fluctuations in water runoff that we believe the timely completion of the Central Arizona Project is critical to wise water management in Central Arizona. The CAP will bring an average of 1.5 million acre feet of water a year to Central Arizona water users and help reduce dependence on scarce groundwater.

The President's recommended budget of $198 million for CAP construction in fiscal year '90-'91 will be sufficient to keep this important project on schedule.

Similarly, the Administration's FY '90-'91 budget provides for $23.8 million to be an additional increment to the federal government's share of the costs associated with the Salt River Pima-Maricopa Indian Water Rights Settlement.

You may recall that this settlement, ratified by the Congress in 1988, provided a secure water supply to this Indian community east of the Phoenix area by acknowledging and quantifying for all time the federal reserved water rights set aside for the community nearly 80 years ago.

Of particular concern to the Salt River Project, however, is a problem brought into sharp relief during the years of plenty we experienced in 1978, 1979 and 1980. I refer to the need for substantial safety of dams modifications at Theodore Roosevelt and Stewart Mountain dams on the Salt River and for safety modifications at Bartlett and Horseshoe Dams on the Verde River.

On three occasions since 1979, the worst occurring in February 1980, the Salt and Verde river dams passed floodwaters which did, in total, more than $100 million damage to the personal and real property of the citizens of metropolitan Phoenix. The dams and other Salt River Project facilities, alone, suffered $13 million in damage.

These dams were constructed to withstand what engineers believed at the time -- in some cases 50 and 75 years ago -- to be the normal expected watershed runoff. Now, the U. S. Bureau of Reclamation estimates potential for runoff at nearly four times what was experienced during the floods in the seventies.

Armed with that knowledge and today's state-of-the-art engineering standards, the Bureau has determined these dams require spillway expansion and foundation reinforcements.

The President's budget provides for $14.2 million to continue work at Roosevelt Dam and $3.3 million to continue work at Stewart Mountain. At this time, it appears the work at Stewart Mountain involving foundation reinforcement and the construction of an additional spillway will be complete by the end of this year. Work at Roosevelt, which also involves raising the dam some 77 feet, will continue over the next 5 years.

On the Verde River, the Bureau of Reclamation is nearing completion of work on an amended safety of dams modification plan for Bartlett and Horseshoe dams. The amendment became necessary, you will recall, after the Arizona Congressional delegation and the National Coalition to Stop Cliff Dam agreed in June 1987 to delete the construction of Cliff Dam from the Plan 6 component of the CAP. Cliff was designed, not only to provide water storage on the Verde, but to provide flood control and to solve safety of dams problems at Horseshoe and Bartlett.

With the demise of Cliff Dam, a solution to the safety of dams problems at Horseshoe and Bartlett is even more urgent. I urge the Committee to accept the Administration's recommendation for funding in FY'90-'91 by appropriating $800,000 for pre-construction planning work at Horseshoe and $2.5 million in pre-construction planning at Bartlett.

Mr. Chairman, in Arizona we appreciate the need for cooperation and compromise to solve our water challenges. We are pleased that the Congress rewards our efforts by providing timely appropriations for the CAP and related projects.

We believe the Congress' acceptance of the funding levels recommended by the Administration will allow this important work to continue on schedule.

Thank you, again, for the opportunity to present this statement.

STATEMENT OF PIMA COUNTY, AZ, DEPARTMENT OF TRANSPORTATION AND FLOOD CONTROL DISTRICT

SUMMARY RECOMMENDATIONS

Rillito River Project	$610,000 Preconstruction Engineering and Design
Rillito Creek Groundwater Recharge Demonstration Project	$166,300 Construction
Central Arizona Project Lower Santa Cruz River Flooding	$3,500,000 Construction
Tucson Drainage Area	$250,00 Survey

On behalf of the Pima County Department of Transportation and Flood Control District, I want to thank the Subcommittee for this opportunity to present our priorities for Fiscal Year 1991, and at the same time to express our appreciation for your support of the County's projects in years past. The County has four water resources priority issues, namely; the Corps of Engineers' Rillito River Project, the Bureau of Reclamation's Rillito Creek Groundwater Recharge Demonstration Project, Central Arizona Project - Lower Santa Cruz River flooding and the Corps' Tucson Drainage Area Study, which we are requesting the Subcommittee's support for in its Energy and Water Development Appropriations Bill for Fiscal year 1991. The following outlines our requests.

Rillito River Project

We are requesting the Subcommittee's support for including the $610,000 in the Administration's budget request for preconstruction engineering and design for the Rillito River flood control project, in the Fiscal Year 1991 Energy and Water Development Appropriations Bill under the Corps of Engineers' program. This flood damage prevention plan, which consists of soil cement bank protection and grade control structures will stabilize the streambanks thus preventing channel shifts of hundreds of feet and the severe flood-related damages which accompany it. The dramatic flash floods that plague our area have caused widespread damages over the last several years to both public and private property. For example, the floods of March and December 1978 and October 1983 caused extensive damages to structures and land along unprotected banks of the river, and to roads, bridges, utilities and existing bank protection. In fact, the 1983 event was the flood of record, both in terms of magnitude of flow and damages sustained, with the U.S. Geological Survey estimating the 29,700 cubic feet per second flow at First Avenue as slightly less than a 50-year-frequency event, and total damages to the area estimated at over $100 million. Once in place, the Rillito River Project will stabilize the streambanks and streambed to protect against these dramatic flood flows.

This project is fully authorized by Congress for construction and we anticipate initiating advance construction of a critical portion of the project shortly under Section 215 of the Flood Control Act of 1968. Mr. Chairman, this is the priority project for the County. Our commitment to this project is evidenced by our willingness to share in the costs of the project in full accordance with Public Law 99-662, the Water Resources Development Act of 1986. In fact, our local costs expended to date in an effort to stabilize the area and protect public safety after the 1983 floods, have reduced the original total project cost from the authorized $26 million to the existing project cost of $19.6 million. This Fiscal Year 1991 funding we are now urgently requesting will enable the Corps to complete the necessary preconstruction work in anticipation of a new construction start in Fiscal Year 1992.

Rillito Creek Groundwater Recharge Demonstration Project

The second priority of the County is the $166,300 in the Bureau of Reclamation's Fiscal Year 1990 Budget within the Groundwater Recharge Demonstration Program for continued construction funding for the Rillito Creek project.

This project was one of the twelve selected for first-year construction funding under

the Bureau's Groundwater Recharge Demonstration Program and Fiscal Year 1991 funding is needed for its third year of construction. This project was determined by the State to be its number one priority project for this demonstration program, and we are anxious to see it move forward on schedule.

Central Arizona Project - Lower Santa Cruz River River Flooding

We are requesting the Subcommittee's support for the addition of $3.5 million to the Administration's request for construction for the Central Arizona Project (CAP) under the Bureau of Reclamations' program in the Fiscal Year 1991 Energy and Water Development Appropriations Bill. This increase to the Administration's request is necessary to protect the Town of Marana, the surrounding unincorporated area and the regional public works facilities against increased flood and erosion damages caused by a siphon outlet and canal within the Santa Cruz River floodplain, that is a structural feature of the CAP Tucson Aqueduct. In addition, a portion of this funding is necessary to protect the federal siphon outlet and canal from overtopping and erosion during flood flows of the Santa Cruz River. Unwittingly, the federal government's presence in the form of the CAP siphon outlet and canal within the 100 year regulatory floodplain, measurably increases the flood and erosion hazards to the area. We are asking the federal government to pay for the increased hazard it is causing.

In an effort to analyze and quantify the problems caused by the existence of the CAP siphon outlet within the floodplain, Pima County and the Town of Marana had an engineering analysis of the problem performed. This documentation and relevant mapping of the floodplain delineation will be submitted for the record for the Subcommittee's review and consideration.

In the opinion of the Pima County Flood Control District, the CAP siphon and canal at the Santa Cruz River creates two burdens by not complying with standard engineering practices for structural modifications within a regulatory floodplain: 1) increased flooding and erosion hazards to public and private lands within the Santa Cruz River floodplain, and 2) increased costs for an on-going local flood damage

reduction effort in the area affected by the CAP siphon outlet. Working in concert with the Town of Marana, Pima County has identified the hazards as diversion of flood flows into developed areas of the community and loss of property due to erosion.

Not only are the residents of Marana facing damages, but through our investigation of the problem, we have identified increased costs in the design and construction of our planned local flood control project, which are necessitated by the threat posed by the federal siphon and the canal.

As the local public agency with county-wide responsibilities to protect the communities within Pima from the dangers of flooding, we have been moving forward to meet our obligation. Since the devastation caused by the 1983 flood of record, in which two people were killed in the Marana area and millions of dollars in damages occurred in this area alone, Pima County has been working to address the flood threat. The County has now developed a $26 million local flood protection project to be funded by Pima County Government, the State and the benefitted property owners, which will protect the residents of Marana, and the surrounding unincorporated area and regional public works facilities, such as the critical Tangerine Sanitary landfill and a planned wastewater treatment plant. Pima County simply must proceed in a timely way on this local plan in order to meet its obligations to protect the public health, safety and general welfare.

However, changes in this local flood prevention plan are necessary to meet the increased flood hazard caused by the presence of the federal siphon outlet and canal within the floodplain. Therefore, we are simply asking the Bureau to pay for the unintended flood and erosion problems it causes by the existence of the CAP siphon within the floodplain.

Hydraulic analysis performed by Pima County on the impacts of the siphon outlet and canal indicate an increase in water surface elevation which exceeds Federal Emergency Management Agency's (FEMA) guidelines for encroachment within a floodplain. This increase in elevation due to the outlet, also exceeds local drainage regulations which state that no construction is permitted within a regulatory floodplain which may divert, retard or obstruct floodwater which threatens public safety. Further, Pima County believes that the existence of the siphon will increase the flow velocity in the channel, accelerating natural stream bank erosion and the potential for the flow to damage adjacent lands. What concerns Pima County and the Town of Marana is that the CAP encroachment does not meet Federal Executive Order 11988, local drainage design requirements and floodplain management ordinances, and Arizona's relevant Executive Order regarding community participation in adoption of floodplain management ordinances. We believe that minimum federal guidelines for encroachment within a floodplain, which were used by the Bureau in designing its work, are not appropriate where, as is the case with the Santa Cruz, unusual flow patterns are encountered. If FEMA's guidelines regarding these type of unique circumstances had been adhered to, even further reductions in the permissible impacts would have been required.

In our discussions with Bureau field staff, a consensus has developed that the location of the CAP siphon and canal in the floodplain increases the existing flood threat to the area. Without this critical prevention work we are seeking, Pima County estimates that physical and other damages to public and private properties as well as infrastructure in the area could be in the $20-$30 million range. What we are looking for here is simple equity. We are asking for help from the federal government for a problem which it inadvertantly caused. This $3.5 million protection is needed to increase the flood damage reduction capability of the joint Pima County/Marana locally-funded flood control project by raising the planned local levee, constructing a grade control structure in the streambed and acquiring additional land for the project -- all of which is necessary to not only protect the CAP siphon outlet and canal from flood and erosion damage, which will occur unless the federal work is protected, but to insure the community's safety against the further hazards caused by the existence of the siphon outlet and canal in the floodplain. We believe this small, early protection now will prevent against much greater loss and damages later. We ask for your assistance in including this necessary funding.

Tucson Drainage Area Study

The fourth priority of the County is to support the $250,000 in the Fiscal Year 1991 Corps' budget to continue the survey of the Tucson Drainage Area. The purpose of the Corps' survey is to develop a comprehensive study of stormwater and flooding problems of the Tucson metropolitan area. We ask for the Subcommittee's assistance in ensuring that this $250,000 in survey funding for the Tucson Drainage Area is included in the Fiscal Year 1991 appropriations measure.

These four items are priority issues for the County and we appreciate your efforts in considering our needs. We stand ready to answer any questions you may have on these projects.

PIMA COUNTY FLOOD CONTROL DISTRICT
LOWER SANTA CRUZ RIVER FLOOD CONTROL PROJECT

BACKGROUND

Early concepts of flood control for the Lower Santa Cruz River were addressed initially within the "Flood Control Concept Report for the Lower Santa Cruz River" prepared by the Department of Transportation and Flood Control District in July, 1987.
On September 27, 1988, the Pima County Board of Supervisors approved the concept of a levee based upon additional studies prepared for the Flood Control District entitled "Feasibility Study for the Lower Santa Cruz River Flood Control Levee". The adopted concept is to construct a 16.9 mile soil cement levee along the north bank of the Santa Cruz River from Continental Ranch to the Pima/Pinal County Line. The purpose of the project is to provide flood and erosion control for the Town of Marana (13.5 sq.mi.) and the unincorporated areas of Eastern Pima County. The project has been divided into three phases. Table 1 provides a description and cost estimate for each phase:

TABLE 1

Phase	Reach	Length	Cost
I	Continental Ranch to Sanders Road	6.9 miles	$12.1 mil.(49%)
II	Sanders Road to Trico Road	5.2 miles	$ 7.3 mil.(30%)
III	Trico Road to County Line	4.8 miles	$ 5.1 mil.(21%)
	TOTAL	16.9 miles	$24.5 million*

* Cost Estimates Excludes Land Acquisition and Mitigation Costs

As part of the project, the 100-year floodplain, including the opposite (south) overbank area, will be purchased. The acquisition will satisfy several multipurpose goals including overbank storage and flow attenuation, riparian habitat restoration, effluent and sludge disposal, river corridor development, open space and continued agricultural uses. Table 2 provides the number of acres to be acquired for the project and the number of benefited acres per phase:

TABLE 2

Phase	**Right of Way (Acres)**	**Benefited Area (Acres)**
I	1,935	6,200
II	2,700	4,500
III	4,000	2,000
TOTAL	8,635	12,700

FINANCING

Several sources of revenue will be utilized to fund the design and construction of all three phases of the project. Sources identified to date include: Pima County Government, State of Arizona, and affected/benefited property owners. Currently, based upon negotiantions between public and private parties, the following funding sources and approximate percentages of participation have been identified:

TABLE 3

Source	Percent
Pima County Government	46 *
State of Arizona	4 +
Benefited Property	37 *
TOTAL	87

* Percent includes funding for all three phases
+ Additional Appropriations to be sought for Future Phases

This represents 87% of the total estimated construction cost excluding right of way that will be financed by local participation. Additional amounts and revenue sources will be required to fund the entire construction project including the purchase of right of way for the project. As can been seen, Pima County Government will shoulder the majority of the project costs (46%) along with affected/benefited property owners (37%). Currently, no federal sources of revenue have committed to the project.

CENTRAL ARIZONA PROJECT SIPHON/CANAL IMPACTS

The outlet of the siphon crossing of the Santa Cruz River is located within the Santa Cruz River 100-year floodplain. Hydraulic analysis of the impacts of the siphon outlet indicate a surcharge of approximately 0.6 feet rise in water surface elevation (WSEL) which exceeds the Federal Emergency Management

Agency's (FEMA) equal conveyance reduction of o.5 feet. The 0.6 feet rise in WSEL also exceeds local drainage regulations of 0.1 feet rise in WSEL due to encroachment. Additionally, 3,300 cubic feet per second of flow will be diverted onto the north overbank which is an approximate 20-percent increase in the volume of flow across the north overbank. Since the north overbank is a perched flow situation, the increase in discharge is diverted away from the channel and directed towards the Marana Town proper. We believe that the CAP encroachment does not meet local drainage design requirements and floodplain management ordinances, State Executive Order No. 77-6, FEMA standards and the intent of Federal Executive Order No. 11988. Finally, the encroachment will locally increase flow velocities which will accelerate natural stream bank erosion and meandering potential to adjacent parcels.

RIVERINE CORRIDOR DEVELOPMENT

Natural riverine corridor establishment will occur upon retired farmlands which lie outside of the primary flow channel of the Santa Cruz River. An estimated 830 acres of poor to nonexistent riparian habitat can be reestablished throughout the project. An estimated 1340 acres of mesquite, cottonwood and other riparian trees could or will be planted to establish, or reestablish existing riparian development as an integral part of the project. The riverine corridor development will satisfy these goals: 1) Section 404 permit mitigation requirements, 2) effective use of treated effluent for irrigation, and 3) providing aesthetic and open space benefits.

PROJECT COSTS INCREASES DUE TO CAP

The encroachment caused by the siphon outlet will affect the design and construction of the project. Due to the constriction, increases in WSEL and velocities, the alignment of the levee must be adjusted to provide additional conveyance capacity. Additionally, a grade control structure will be required to stabilize the channel bed gradient in the reach of the siphon crossing to protect the integrity of the siphon during flow events. Table 4 lists the increased costs caused by the CAP encroachment to the Lower Santa Cruz River Flood Control Project:

TABLE 4

ITEM	COSTS
Increased Levee Height	$ 11,000
Increased Toe Down	$ 46,000
Grade Control Structure	$ 245,000
Additional Right of Way 156 Acres @ $14,000/Acre	$2,184,000
TOTAL	$2,486,000

Additionally, in the opinion of the District, the existing siphon outlet and canal within the Santa Cruz River 100-year floodplain is subject to overtopping and erosion due to natural channel meandering. In order to protect the siphon outlet and canal for both existing conditions and post project conditions, additional protection is necessary. Therefore an additional $1,023,000 (excluding right-of-way) is needed by the Bureau to construct a levee to adequately protect the existing CAP siphon from overtopping and erosion (pre project) as well as to eliminate potential damage claims by affected properties due to upstream backwater and diversion of flow created by the siphon outlet and canal. Adding this cost to the costs listed in Table 4, a total of $3,509,000.00 should be appropriated by the Bureau to correct the problems created by locating the siphon outlet and canal within the Santa Cruz River regulatory floodplain.

TABLE 1

INCREASED COSTS TO FLOOD CONTROL PROJECT
ATTRIBUTED TO CAP SIPHON AND CANAL ENCORACHMENT

ITEM	COST
Increased Height of Bank Protecion [(1.0ft.x2000ftx9.0ft)/27ft3/yd]x$16.39/yd3	$11,000.00
Increased Toe Down Depth (includes excavation/backfill [3.0x2000ftx9.0ft/27ft3/yd]x$23.00/yd3	$46,000.00
Grade Control Structure [20ftx1600ftx9.0ft/27ft3/yd]x23.00/yd3	$245,000.00
Additional Right-of-Way 156 Acres x $14,000/Acre	$2,184,000.00
TOTAL	$2,486,000.00

TABLE 2

COSTS TO PROTECT EXISTING CAP SIPHON OUTLET AND CANAL
FROM OVERTOPPING AND EROSION AND MITIGATE BACKWATER IMPACTS

ITEM	COST
South Overbank Levee [26ftx7200ftx9.0ft/27ft3/yd]x$16.39/yd3	$1,023,000.00
TOTAL COSTS	**$3,509,000.00**

STATEMENT OF HELEN HAROLD

I am writing to express my opposition to Reach IV of the Arizona Canal Diversion Channel. This is the four-mile section which is an afterthought to the original project - possibly an illegal one.

At present its resident-supporters are silent - if indeed there are any. The opposition is great and growing as more people learn of it. We are outraged that at a time of huge national debt such a project would even be considered. Its present cost benefit ratio is at best $2.50 spent for each $1.00 of benefit; that does not include costs of the enormous environmental damage and the detrimental effect on the lifestyle of nearby residents and users - not only for the two years of construction but for the 100 years it is supposed to last as a blot on the desert landscape. Reach IV is the section of the canal bank most used by riders, joggers and family groups. Saturday morning there were over 200 blind people with their dogs enjoying the day and the desert.

We ask that construction be halted for re-design. When the public purse is fat enough to afford marginal projects and when a non-destructive design has been achieved, then - if the need still exists - it can be constructed.

But now it represents an example of the kind of federal spending that enrages taxpayers - especially when the primary beneficiary is the Salt River Project a quasi-governmental utility. If this is built it cannot be forgotten during the 100 years of its projected life - a monument to extravagant and environmentally callous elected officials at all levels.

We will be grateful for your support in denying funding for Reach IV.

Senator DECONCINI. I will now yield to the Senator from Pennsylvania for some introductions and thank my friend Eldon Rudd for being here.

Senator Specter.

GRAY'S LANDING AND POINT MARION LOCKS AND DAM

STATEMENT OF SENATOR ARLEN SPECTER

Senator SPECTER. Thank you, Mr. Chairman. I appreciate your yielding to me at this time. We have two groups from Pennsylvania who will be testifying this morning. Coming to the witness table now are representatives of DINAMO, lead by Mr. R. Barry Palmer, executive director of DINAMO. Their testimony relates to the very important development of Gray's Landing and Point Marion Locks and Dams in the Pittsburgh area where we have the Mononogahela and the Allegheny coming together to form the Ohio.

It is a very famous point, internationally famous perhaps more so because of the Three River Stadium which comes in at that juncture, but the substance of the work which is done here on this very important part of the infrastructure is the subject of the testimony, and we are looking for a total investment here which, if it obtains approval, would be $2.2 billion by the turn of century.

These gentlemen have been at the forefront for a decade and have great knowledge of these projects. I would also like to introduce a group which will be testifying in a few minutes, if I might, Mr. Chairman, because the Byrd amendment is on the floor, which is a very important aspect of the clean air bill for Pennsylvania, and I regret that I cannot stay.

We have the Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area testifying in a few minutes lead by Mr. Bill Harrison, secretary-treasurer of the Joint Executive Committee. Also, Louis Caccese, Mr. Alan J. Wood, William McLaughlin, Mr. Joseph Grossi, Joseph A. Balzano, John Doherty, George E. Duffy, Mr. John Burkhardt, Mr. Harold Ellwanger, and represented by David Norcross, Esq.

The Philadelphia Port used to be the Nation's leader and one of the world's leaders in the days when Philadelphia was the largest city in the country in the early 19th century and still has been for many aspects of cargo an enormous port and is in urgent need of some very substantial financial assistance. The President's budget proposes $11.4 million for the Philadelphia to the sea project.

I am hopeful that with my colleagues on this subcommittee we will be able to do just a little bit better for this project because of its urgent need. I commend these witnesses to the committee and subcommittee. My staff and I will carefully review the notes at a later time, so I thank you and the chairman.

Senator DECONCINI. Thank you, Senator Specter. We are pressed for time; I am sorry.

OHIO RIVER VALLEY NAVIGATION PROJECTS

STATEMENT OF FRANK MARTIN, EXECUTIVE DIRECTOR, INDIANA PORT COMMISSION ON BEHALF OF DINAMO

ACCOMPANIED BY:

R. BARRY PALMER, EXECUTIVE DIRECTOR, DINAMO, ASSOCIATION FOR THE DEVELOPMENT OF INLAND NAVIGATION IN AMERICA'S OHIO VALLEY

CHARLES LEHMAN, MARITIME ADVISORY COUNCIL

Mr. PALMER. I want to thank the Senator, Senator Specter, and you, Mr. Chairman, and members of this subcommittee, for your terrific support over the years. I have asked Mr. Martin, who is the executive director of the Indiana Port Commission, if he would go right to the point in terms of specific matters about which you are concerned. I have Mr. Charles Lehman from the Maritime Advisory Council.

Senator DECONCINI. Thank you. Any other statements that you want in the record, we will be glad to include.

Mr. MARTIN. I will summarize my remarks. I will be as brief as possible.

Senator DECONCINI. Very good, Mr. Martin.

Mr. MARTIN. We certainly appreciate, as Barry pointed out, the cooperation of the committee. What we are asking consideration for is, of course, rather modest. If you look at what is occurring in our sister ports in the Midwest, which has been commonly referred to as the Rust Belt, we are certainly making a tremendous resurgence in the economic area, Pennsylvania, Ohio, Virginia, Kentucky, and Indiana.

It is directly attributable to the commitment of the American Government to the development of the inland waterway system, something we feel has been neglected for many years and with the new developments occurring on the locks and dams and the modernization projects, we feel it is a step in the right direction, and this effort of creating new capacities and renewing the lock and dam systems and modernizing will help us overall economically.

OLMSTEAD LOCK AND DAM

The modest request that we are talking about, Mr. Chairman, specifically, we are requesting an additional $400,000 which is needed for the acquisition of real estate in fiscal year 1991 in the Olmstead Lock and Dam project, which was authorized in 1988 by the Congress. This project, of course, will replace lock and dam 52 and 53 on the Ohio River which is on the Kentucky, Indiana, and Illinois border.

The present schedule of the Corps of Engineers, which is unacceptable to Ohio Valley interests, calls for initiation of construction in 1993 and completion of the project in the year 2005, which would take approximately 15 years. Our concern, and we hope it is a concern of this committee, that that is much too long a period of time.

Why should it take 5 years from the time a project is authorized until construction can begin? Why when you consider the fact that the Olmstead Lock and Dam will return $25 for every $1 invested by the Federal Government and the private sector with moneys in the inland waterways trust fund.

The specific $400,000 we are asking for, as I said, is for acquisition of real estate to continue the project, and also, if there is budget flexibility, the Corps could clearly utilize an additional $3.1 million for design work to complete the lock design memorandum and initiate plans and specifications for lock construction.

A total of $7 million is needed in the next fiscal year just to keep the project on schedule. The need for quick action on this vital navigational project has already been proven, and we need your help to accelerate the progress on the new Olmstead Lock, and on behalf of the State of Indiana, the public port system of the Ohio River, the five States that comprise the DINAMO organization, and the private maritime interests of the Ohio Valley, we appreciate your support and would greatly appreciate your commitment and help in strengthening our position and the U.S. Government's position on the inland waterway system. Thank you.

Senator DECONCINI. Mr. Martin, thank you. I can assure you that the committee will look very carefully at this. As the Senator has pointed out, a lot of these projects depend on the allocation the subcommittee gives once we get the budget. Those are the problems we face, but certainly, your testimony will help us when we come to be marking up. Thank you, gentlemen.

STATEMENT OF FRANK MARTIN

Mr. Chairman and Members of the Subcommittee:
I am Frank Martin, Executive Director of the Indiana Port Commission. As the Executive Director I am responsible for development of the Clark Maritime Centre at Jeffersonville, Indiana Southwind Maritime Centre at Mount Vernon, Indiana both on the Ohio River, and Indiana's International Port located on Lake Michigan at Burns Harbor. The Indiana Port Commission has been affiliated with DINAMO for many years, Mr. Chairman, and those of us associated with port commissions understand the importance of the waterways and locks and dams to the economy of the Ohio Valley, and to the many businesses and families we serve.

DINAMO is a multi-state, membership-based association of business and industry, labor, and state government leaders from the Ohio Valley states, whose singular purpose is to expedite the modernization of the lock and dam infrastructure on the Ohio River Navigation System. Our request for funding of lock and dam modernization action in the Ohio Valley is as follows:

Recommendations for Fiscal Year 1990

(1) For the GALLIPOLIS MODIFICATION PROJECT on the Ohio River, $46,300,000 for continued construction.
(2) For the GRAYS LANDING LOCK AND DAM PROJECT on the Monongahela River (also known as the replacement of Lock and Dam #7) $31,000,000 for continued construction.
(3) For the POINT MARION LOCK PROJECT on the Monongahela River (also known as the replacement of Lock #8) $28,300,000 for continued construction.
(4) For the WINFIELD LOCK REPLACEMENT PROJECT on the Kanawha River in West Virginia, $16,200,000 to continue construction.
(5) For the OLMSTED LOCKS AND DAM PROJECT on the Ohio River, to replace Locks and Dams #52 and #53, KY/IL, $3,532,000 to continue pre-construction engineering and design.
(6) For the MCALPINE LOCKS AND DAM, $1,000,000 for continued pre-construction engineering and design.
(7) For the LOWER CUMBERLAND AND LOWER TENNESSEE RIVERS STUDY, $1,008,000 to continue navigation system reports on the two rivers.
(8) For LOCKS AND DAMS #2, #3, AND #4 on the Monongahela River $900,000 for pre-construction engineering and design.
(9) For the MARMET LOCK on the Kanawha River in West Virginia, $650,000 for continued condition, economic and environmental investigations.
(10) For the OHIO RIVER MAINSTEM STUDY $1,065,000 for continued condition studies, economic and environmental evaluations.
(11) For the UNIONTOWN LOCKS AND DAMS, $450,000 for continued planning.

Also, we are requesting additional funding for the Olmsted Project above the level in the President's FY 1991 Budget. This project would replace Locks and Dams 52 and 53, Ohio River, on the Kentucky/Illinois border. The present schedule of the Corps of Engineers calls for the initiation of construction in 1993 and completion of the project in 2005, some 15 years from now. We have been pressing the Assistant Secretary of the Army (Civil Works) and the Corps of Engineers to initiate construction of this project since the Congress authorized the new Olmsted Lock and Dam in 1988. Why, Mr. Chairman, should it take five years from the time a project is authorized until construction can begin? Why, Mr. Chairman, when the Olmsted Lock and Dam will return $25.00 for every $1.00 invested by the federal government and the private sector with monies in the Inland Waterway Trust Fund?

We specifically are requesting a new construction start for this project. Particularly an additional $400,000 is needed for the acquisition of real estate in FY 1991. Also, the Corps of Engineers can clearly utilize an additional $3.1 million for design work to complete the lock design memorandum and initiate plans and specifications for lock construction. The need for expeditious action on this vital navigation project has already been proven, and we need your help to accelerate progress on the new Olmsted locks and dam. Mr. Chairman, we wish to submit for the record three separate documents: the first document, labeled Attachment I is a copy of a letter from Brigadier General Paul Y,. Chinen, Commander, Ohio River Division, U.S. Army Corps of Engineers, stating the Fiscal

Year 1991 funding capabilities for lock and dam construction, pre-construction engineering and design (PED) activities, and General Investigations studies for modernization of the Ohio River Navigation System. Included is a statement of the discussion between General Chinen and the distinguished Ranking Republican member of this Subcommittee, Mr. John Myers, regarding the need for accelerated Corps of Engineers work on the Olmsted project. The other two documents, Attachment II and Attachment III, are reports prepared for DINAMO by Marvin J. Barloon, Carlton Professor of Economics (Em.), Case Western Reserve University, Cleveland, Ohio. These reports are titled: "The Urgency of a Modernized Ohio River Navigation System to the Coal Industry of Ohio" and "The Importance of the Ohio River Navigation System to the Electric Power Industry", respectively.

These reports provide important insights into the relationship of the Ohio Valley waterways, and particularly DINAMO lock and dam modernization objectives, to the economy of the Ohio Valley state and the nation. Following are Executive Summaries of these two reports:

EXECUTIVE SUMMARY

The Urgency of a Modernized Ohio River Navigation System to the Coal Industry of Ohio

Ohio shares the benefits of low-cost water transportation by virtue of the state's 445 mile frontage on the Ohio River. This gives the state low-cost access to sources and markets through the system, including the cities of Pittsburgh, Charleston, Huntington, Louisville, Evansville, Nashville (on the Cumberland) and all Tennessee River ports. In addition, because of the Ohio's confluence with the Mississippi River at Cairo, Illinois, the river provides a through waterway routing to St. Louis, Chicago, and the twin cities on the north, to Kansas City and Tulsa on the west, and on the south to the entire lower Mississippi Valley and the Gulf Coast, from Florida to the Mexican border.

Apart from construction income, the longer-term benefits to the Ohio economy will be those consequent on heightened efficiency of the waterway system, accruing via the shipping and receiving industries to consumers, workers, and investors throughout the state. The largest volume commodity shipped to the Ohio River is coal, and the river is more important to Ohio's coal industry than the railroads. According to the U.S. Department of Energy, in 1986, Ohio shipped one and one-half times as much coal by river as by rail.

The National Coal Association projects that total demand for U.S. coal, domestic and export, for the year 2000 at 1,181 million tons. (This is the Association's "moderate" projection.) Whether or not Ohio's coal industry shares in this favorable outlook depends mainly on the navigation improvement program. From 1976 to 1986, the total production of the mining districts of the Ohio River Basin increased by 24.2 million tons. This was entirely an increase in shipments on the rivers. Indeed, the river shipments actually increased by more than the over-all rise in production (32.9 million tons), while shipments by other modes declined. If this relationship continues for the remainder of the century, the entire outlook for the region's coal industry rests on the programmed improvement of the Ohio River navigation system.

The benefits of riverborne coal are also pervasive in the number and extent of the communities affected. There are 24 coal producing counties in Ohio, all in the eastern, or Appalachian, area. The 1980 population of these 24 counties was just over 1.7 million. The importance of coal mine revenues in the Appalachian can hardly be overstated.

Far from being confined to the mining personnel, coal mine revenues exert an impact on all varieties of local enterprise and public services. The initial income, of course, flows to those who contribute, directly or indirectly, to the production and shipment of the coal: mine employees, proprietors, investors and mine suppliers. Most of this is re-spent locally, creating additional income for enterprises such as retail stores and professional services and revenues for public agencies (schools, safety forces, health services, street maintenance, etc.) The local impact of their re-spending (commonly called the "multiplier") is generally estimated at being about equivalent to the initial income, that is, a doubling of such income. The prosperity of the coal industry thus permeates every feature of the community life in the mining communities.

Ohio coal shipped on the rivers in 1986 had a value at the mine of $646.2 million. Studies in Appalachian mining areas indicate that about $409.7 million of this was local income. This includes payrolls, proprietor's income, supplies, maintenance, fuels, and other local purchases by the mining enterprises. Re-spending at a multiplier of two indicates total income from riverborne coal, direct and indirect, to the 1.7 million people of about $800 million.

In individual counties, the local impact is much greater. In some localities coal mining is the dominant economic activity. taking, for example, the ten Ohio counties producing over 1.5 million tons each in 1986, the riverborne coal alone represented direct and indirect income of over $5,675 per household.

Recognizing that the industry's growth over the past ten years has been entirely a growth in marketing via rivers, it is clear that the consequence has been a sustained strength of wholesome community life and well-being in the principal coal-producing counties of Ohio and that their share in the projected growth of the coal industry into the Twenty-First Century is directly dependent on a modernized river navigation system.

With the passage of time, the need for updating the Ohio River navigation system to modern standards becomes progressively more urgent. These present deteriorated works are subject to shut-downs for repairs with increasing frequency and duration, obstructing traffic, raising costs, and disrupting delivery and production schedules in the shipping and receiving industries. The affected industries include electric power, chemicals, iron and steel, refining and distribution of gasoline and fuel oil, and agriculture. Coal, as the largest waterway user, is the most concerned. Replacement projects require from five to ten years for completion, and every year heightens the urgency for relief. Expeditious progress is essential.

EXECUTIVE SUMMARY

The Importance of the Ohio River Navigation System to the Electric Power Industry

The thermal generating plants on the banks of the System consume coal almost exclusively. The Army Corps of Engineers reports that about 78 percent of all the waterborne coal moved on the System is consigned to electric power plants, the remainder to steel and other industries and for export. On this basis, it may be estimated that the riverside plants received about 82.9 million tons of waterborne coal in 1987, or just short of 75 percent of their total consumption. The remainder was received via land modes, usually for short distances and at water-competitive rail and trucking rates.

The unmatched low cost of river barging, especially of dry bulk commodities, constitutes an enormous saving in the cost of electricity. The typical barging rate per ton of coal in 1899 was only four mills per mile (A mill is one-tenth of one cent.) At this rate, a ton of coal could be hauled 60 miles by river barge for less than the cost of a first-class postage stamp (25 cents). For uncontracted haulage, shippers sometimes hdd to pay "spot rates", as much s 50 percent higher. At this rate, the charge for hauling an average ton of coal 75 miles would be about the same as the U.S. postage on a two-ounce letter.

This transportation bargain converts itself into a lower cost of fuel at the power plant and of electricity for industries, farms, and households. In 1987, the average fuel cost at fossil-fueled power plants in the United States was 18.4 mills per kilowatt-hour. For plants on the Ohio River System it was only 14.3 mills. These riverside plants generated over 286.4 billion kilowatt-hours in 1987 at an aggregate fuel cost saving in this one year of about $1.17 billion as compared with the national average. As a measure of magnitude, this was equivalent to about $119.00 for each of the 9.8 million households in the Ohio Basin. Actually, of course, much of the saving took the form of low rates to major industries, commercial establishments, and farms, thereby serving as a stimulus to production, employment, and incomes.

On this foundation, electric power has become a specialization of the region, like corn in Iowa or orange juice in Florida. In 1987, the counties on the banks of the Ohio River System in the eight states the System serves had a population of 4.1 percent of the U.S. total. This includes such metropolitan areas as Pittsburgh, Cincinnati, Louisville, and Nashville, in addition to a large number of smaller communities. With only 4.1 percent of the nation's population, waterside electric plants in these counties produced 11.1 percent of the nation's electric power.

Navigation on the Ohio River System also supplies coal to generating stations outside the Basin. In 1987, some 12.5 million tons were carried all-water to plants on the Gulf Coast between New Orleans and Tampa, Florida. An additional 9.3 million moved all-water to plants on the Mississippi and Illinois Rivers, large tonnages of this to Memphis and Chicago.

Cargo originated by barge on the System was transferred at barge-to-rail terminals for delivery to power plants in north and central Georgia, to plants in Maryland, and via rail and lake to eastern Canada. All of this coal had to work its way through antiquated and run-down lockage structures on the originating streams.

We have referred previously to the percentage of the System's electricity output to the national total. Its dominance in the supply in individual Ohio Basin states is even more striking. The System's riverside counties in Ohio, for example, are home to only 15.6 percent of the state's population. But, in 1987, their waterside plants generated 68.7 percent of Ohio's electricity. Only 10.0 percent of Hoosiers live in counties bordering the Ohio River. But, these counties produced 35.5 percent of Indiana's electricity. In Alabama, the corresponding percentages are 18.0 for population (on the Tennessee River) and 25.0 for electric power.

West Virginia is preeminently a river state. Three navigable rivers either adjoin or lie within West Virginia, and 50.3 percent of the people live in counties. In 1987, these produced 64.5 percent of the state's electric energy. Tennessee, also a river state, is served by two navigable tributaries of the Ohio. The riverside Tennessee counties are home to 36.9 percent of the state's population and, in 1987, produced 71.4 percent of the state's electricity. (This does not include Memphis on the Mississippi.)

The low cost and abundance of electricity in the Ohio Valley underlies much of the region's industrial strength, especially for industries which are energy-intensive. Aluminum smelting, an electrolytic process, is especially notable. Major concentrations of chemical plants, also energy intensive, are located in the eastern Ohio Basin and the Tennessee Valley. According to the American Iron and Steel Institute, the steel produced by electric furnaces in the U.S. increased from 24.9 percent of the total in 1979 to 36.9 percent in 1988, a change associated with the increasing strength of the domestic industry in international competition.

The emerging industrial renaissance of the Northeast Quadrant of the United States includes an increasing element of newer high-technology, energy-intensive industries utilizing, for example, robotics in the motor vehicle, machinery, and appliance industries. Advanced food processing industries and computer technology are additional illustrations. American farming has become an energy-intensive industry, relying on an abundance of electric energy for powered machinery as well as floodlighting of outdoor work areas and of the interior of large structures. By means of these utilizations, the electric power of the Ohio Valley supports an extensive complex of basic industry enhancing the strength of the national economy in international competition, an asset of nationwide benefit. The efficient carriage of coal on the Ohio River System is a central feature of this role.

On behalf of the DINAMO Board of Directors I thank you for allowing this time to present to you our concerns about the future of the inland navigation system in the Ohio Valley. Commercial navigation on the Ohio River mainstem is of paramount importance to Indiana. Thousands of Hoosiers owe their jobs directly and indirectly to riverborne commerce and industry. Direct access to this least cost transportation mode affords our farmers, manufacturers, utilities and retail consumers significant savings, greatly enhancing Indiana's economic climate.

ATTACHMENT I

LETTER FROM BRIG. GEN. PAUL Y. CHINEN, U.S. ARMY ENGINEERING DIVISION, OHIO RIVER, CORPS OF ENGINEERS

9 MAR 1990

Mr. Barry Palmer
Executive Director
DINAMO
Three Gateway Center
Pittsburgh, Pennsylvania 15222

Dear Mr. Palmer:

This is in response to your February 20, 1990 letter, requesting Fiscal Year 1990 funding capabilities for lock and dam construction, preconstruction engineering and design (PED) activities and General Investigations studies relating to modernization of the Ohio River Navigation System.

A tabulation outlining this information is enclosed. Capabilities in excess of the approved budget amount should be considered under the following qualifying language:

> "Although project and study capabilities reflect the readiness of the work for accomplishment, they are in competition for available funds and manpower Army-wide. In this context, the capability amounts shown consider each project or study by itself without reference to the rest of the program. However, it is emphasized that the total amount proposed for the Army's civil works program in the President's budget is the appropriate amount consistent with the administration's assessment of national priorities for federal investments and the objectives of avoiding large budget deficits and the serious adverse effect that government borrowing is having on the national economy. In order to maintain these overall budgetary objectives, we could only utilize additional funds on individual projects and studies if offsetting reductions were taken."

The following information confirms my discussion with Mr. John Myers in testimony before the House Appropriation Subcommittee on Energy and Water Development on February 9, 1990. In response to Mr. Myers' question about additional capability for real estate acquisition, I stated that we do not have an approved capability; however, if we were so directed, we could begin land acquisition in Fiscal Year 1991, utilizing an additional $400,000, but this would not advance completion of the project. In response to Mr. Myers' question about additional funds to advance design efforts, I stated that the requested Fiscal Year 1991 funds will allow us to complete preconstruction engineering and design. Although we do not have an approved capability, if so directed, we could use additional design funds in the amount of $3,100,000 to complete the lock design memorandum and initiate plans and specifications for lock construction. These additional funds will advance design work that would normally be done during construction.

I trust this information meets your present needs. Please let me know if I can provide any further data on our funding and project status.

Sincerely,

Paul Y. Chinen

Paul Y. Chinen
Brigadier General, U.S. Army
Commanding

Enclosure

Ohio River Division
Fiscal Year 1991 Funding Capabilities

Studies

Name of Study or Project	Amount in FY 91 President's Budget	FY 91 Capability	Purpose of Additional Capability
Cumberland--Tennessee Rivers, KY, GA, AL, MS, NC, TN & VA	$1,008,000	$1,008,000	No additional requirement.
Green & Barren Rivers, KY	0	800,000	Initiate feasibility phase of study.
Kanawha River Navigation, WV	650,000	650,000	No additional requirement.
Lake Erie--Ohio River Canal, OH & PA	0	0	Special report will be completed with available fund.
Ohio River Mainstem, KY, IL, IN, OH PA & WV	1,065,000	1,065,000	No additional requirement.
Uniontown Locks and Dam, KY, IL & IN	250,000	450,000	Complete reconnaissance phase and initiate feasibility phase study.

Preconstruction Engineering and Design (PED)

Name of Study or Project	Amount in FY 91 President's Budget	FY 91 Capability	Purpose of Additional Capability
Lock and Dam 3 & 4 Monongahela River, PA	900,000	900,000	No additional requirement.
McAlpine Locks and Dam, IN & KY	1,000,000	1,000,000	No additional requirements.
Olmsted Locks and Dam, IL & KY	3,532,000	3,532,000	Complete PED.

Ohio River Division
Fiscal Year 1991 Funding Capabilities
(Continued)

Construction

Gallipolis Locks and Dam, WV & OH	46,300,000	46,300,000	No additional requirement.
Grays Landing Lock and Dam, PA	31,000,000	31,000,000	No additional requirement.
Point Marion Lock and Dam, PA & WV	28,300,000	28,300,000	No additional requirement.
Winfield Lock and Dam, WV	16,200,000	16,200,000	No additional requirement.

ATTACHMENT II

URGENCY OF A MODERNIZED OHIO RIVER NAVIGATION SYSTEM TO THE COAL INDUSTRY OF OHIO

Prepared for:
DINAMO, Inc.
Pittsburgh, Penna.

By:
Marvin J. Barloon
Case Western Reserve University

April 6, 1989

After delays of many years, action is now being taken to relieve serious bottlenecks on the Ohio River navigation system. Other modes of transportation are up to date. Since World War II, major railroads serving Ohio have been modernized to computer-age standards. The new National Network for Trucks, 8,192 miles of it within the state, links Ohio's modern highways to all regions of the continent. But, the Ohio River System has been half forgotten. Modernization was well under way until the mid-1970's, when all progress came to a halt. Serious bottlenecks persist as lock-and-dam structures built in the days of the steam locomotive and the Model-T Ford continue to hamper Ohio's access to favorable markets and sources of supply.

Low Cost of River Transportation

Efficient transportation on the inland rivers is important to the state's economy. River transport specializes in bulk commodities moved in large tonnages--coal, gasoline, fuel oil, chemicals, building materials, iron and steel, farm crops, and the like. For this kind of freight, waterway cost is incomparably low. In 1986 (the latest year reported), the U. S. inland rivers carried just short of 16.0 percent of the nation's freight. But, they charged only 1.1 percent of the nation's freight bill.

Ohio shares in this saving by virtue of the state's 455-mile frontage on the Ohio River. This gives the state low-cost access to sources and markets throughout the system, including the cities of Pittsburgh, Charleston, Huntington, Louisville, Evansville, Nashville (on the Cumberland), and all Tennessee River ports. In addition, because of the Ohio's confluence with the Mississippi at Cairo, Illinois, the river provides a through waterway routinq to St. Louis, Chicago, and the Twin Cities on the north, to Kansas City and Tulsa on the west, and on the south to the entire lower Mississippi Valley and the Gulf Coast, from Florida to the Mexican border.

PRIORITY NAVIGATION PROJECTS ON THE OHIO RIVER SYSTEM

Upper Ohio Basin

Monongahela River - Locks Nos. 7 and 8. These two structures on the Pennsylvania-West Virginia border, completed in 1925, are grossly inadequate to modern navigation technology and so badly deteriorated that, in the absence of replacement, abandonment has been considered as a realistic alternative. Their collapse or abandonment would render valueless the navigation features of three major upstream lock-and-dam installations in northern West Virginia, built since World War II, and would isolate the communities of Fairmont and Morgantown from the rest of the navigation system.

Fortunately, construction of new replacement works of adequate capacity on this reach of the Monongahela was initiated in 1988, with completion anticipated in 1993, assuming congressional funding at the full capability of the Army Corps of Engineers.

Kanawha River - Winfield. The old Winfield Locks, completed in 1937 near the mouth of the Kanawha, capable of moving only one "jumbo" barge at a time, are now carrying five times the freight of the pre-war years and are inadequate to the emerging traffic demand of the 1990's. Coal shippers state that congestion is already adding $0.37 per ton of cargo to the transit cost.

Large tonnages of Ohio products, including chemicals and petroleum products, utilize these locks for access to the Charleston, West Virginia, area. The President's budget, submitted to Congress in January, 1989, would provide funds for initiating construction at Winfield in April, 1990, with availability for navigation projected for 1996, contingent on funding at full Corps capability.

Ohio River - Gallipolis. At Gallipolis, Ohio, the old locks-and-dam (also of 1937 vintage) for which replacement was recommended by the Corps of Engineers 20 years ago, are badly run down, congested, and hazardous to life and property, hampering access by industries in the central and lower Ohio Valley to the Kanawha River, the upper Ohio Basin, and the Pittsburgh area. Construction of modernized facilities got under way at Gallipolis late in 1987, with openeing to traffic indicated in 1996, subject, however, to sustained annual funding by Congress at full Corps capability.

Central Ohio Basin

Ohio River - McAlpine. The McAlpine works at Louisville, Kentucky, are on the verge of being swamped by rapidly growing traffic, tonnage having risen from 33.0 million in 1970 to 54.0 million in 1987 and projected at well over 80.0 million by the time additional capacity can be brought into service. Much of this is Ohio commerce.

McAlpine consists of a modern 1,200-foot lock supplemented by an antiquated 600-foot chamber of inadequate depth and excessive turbulence opened in 1921 and sited under a movable bridge in a manner disuptive to traffic by both land and water. For this reason, the 600-foot lock is used only as a peak demand facility.

In early 1989, the Corps of Engineers was actively engaged in preparation of a feasibility report and environmental impact study looking towards provision of capacity at McAlpine sufficient to forestall towards the end of the century an otherwise serious traffic crisis.

Lower Ohio Basin

Tennessee River - Kentucky. This facility, 22 miles upstream on the Tennessee from the river's confluence with the Ohio, is the gateway between the main stream of the Ohio and two important waterways to the south, the Tennessee River and the Tennessee-Tombigbee connection leading to the Port of Mobile. In the access of Ohio River commerce to the Tennessee-Tombigbee, the only additional lockage on the Tennessee is that at Pickwick Landing, upstream from the Kentucky Lock and a dual-lock structure with the main lock 110 feet x 1,000 feet. The Kentucky Lock, only 600 feet long, needs to be brought up at least to this standard.

Because the Kentucky Lock has no auxiliary, when it was closed for rehabilitation for 104 days in 1986, traffic had to make an expensive detour via the Barkley Canal to and from the Cumberland River. Traffic demand at Kentucky has been growing rapidly, from transits of only 15.0 million tons in 1970 to 30.1 million in 1987 and is expected to reach 39.0 million by 2000. Relief of this bottleneck is under study by the Nashville District of the Corps of Engineers.

Ohio River - Olmsted. Ohio has an especially big stake in the projected replacement at Olmsted, Illinois, of old Locks-and-Dams Nos. 52 and 53 near the mouth of the Ohio and the Ohio Valley's principal gateway to the entire Mississippi River System and the Gulf Coast. The two antiquated structures, completed in 1928 and 1929, are supplemented by more recent temporary and unreliable locks which will be well beyond their design service life before a replacement can be completed.

In 1987, these makeshift works transited over twice as much cargo tonnage as the entire St. Lawrence Seaway between Lake Ontario and Montreal, U. S. and Canadian combined, much of this massive traffic to and from Ohio.

In 1988, Congress authorized construction of a new facility at Olmsted of adequate capacity for the mounting traffic load, but, in early 1989, no funds had yet been appropriated for this purpose. The project will require at least 10 years to complete.

CONSTRUCTION REVENUES AND FUEL TAX FINANCING

This large-scale and long-term modernization program represents substantial opportunity for the region's construction industries. At 1986 price levels, the prospective federal investment in the Gallipolis, Ohio, project is estimated at $336.0 million, and work on the Kanawha and Monongahela Rivers will add an additional $400.5 million, for a total of $736.5 million in the upper basin.

Corresponding estimates have not yet been prepared for the McAlpine project at Louisville or the Kentucky Lock, but the Olmsted project near the mouth of the Ohio is estimated at $801.0 million. In short, the total program will represent an investment probably approaching $2.0 billion, much of which will accrue to Ohio building and builders' supply industries. Unlike construction projects which are completed in a rather short time, this proram will continue for many years, clearly well into the Twenty-First Century.

The Waterways Fuel Tax

Ohio shippers and consumers, as waterway beneficiaries, are already making a substantial portion of this investment. Inland waterway carriage is subject to a federal waterways fuel tax, imposed on shallow-draft vessel movements since 1980 and programmed to rise in stages to 20 cents a gallon by 1995. Revenues from this tax are being accumulated in the Inland Waterways Trust Fund from which withdrawals are made to pay one-half of the outlays for all new inland waterway construction. It is reasonable to expect that Ohio's contribution to fuel tax revenues may be returned, at least in part, as payment for work performed by the state's construction industries and workers.

THE OHIO COAL INDUSTRY

Apart from construction income, the longer-term benefits to the Ohio economy will be those consequent on heightened efficiency of the waterway system, accruing via the shipping and receiving industries to consumers, workers, and investors throughout the state. The largest volume commodity shipped on the Ohio River is coal, and the river is more important to Ohio's coal industry than the railroads. According to the U. S. Department of Energy, in 1986, Ohio shipped one and one-half times as much coal by river as by rail.

River Transportation as the Growth Factor in Coal Production

The National Coal Association projects the total demand for U. S. coal, domestic and export, for the year 2000 at 1,181 million tons. (This is the Association's "moderate" projection.) Whether or not Ohio's coal industry shares in this favorable outlook depends mainly on the navigation improvement program. From 1976 to 1986, the total production of the mining districts of the Ohio River Basin increased by 24.2 million tons. This was entirely an increase in shipments on the rivers. Indeed, the river shipments actually increased by more than the over-all rise in production (32.9 million tons), while shipments by other modes declined. If this relationship continues for the remainder of the century, the entire outlook for the region's coal industry rests on the programmed improvement of the Ohio River navigation system. The 1976-1986 relationships appear in Chart I (next page).

River Transport as a Restraint on Railroad Rates

Waterway competition holds railroad rates in check. During the 1980's, one of the major concerns voiced by coal executives has been the high rates imposed by railroads on shipments for which the rails have little significant competition. As an offset to this problem, in December, 1988, two major railroads, CSX Transportation and the Norfolk Southern Corporation, rescinded programmed rate increases on Appalachian coal carried to Atlantic ports for export. Waterway competition was a clear incentive for this rescision. Appalachian coal has an alternative outlet. Shippers can move the coal by barge down the Ohio and

CHART I.

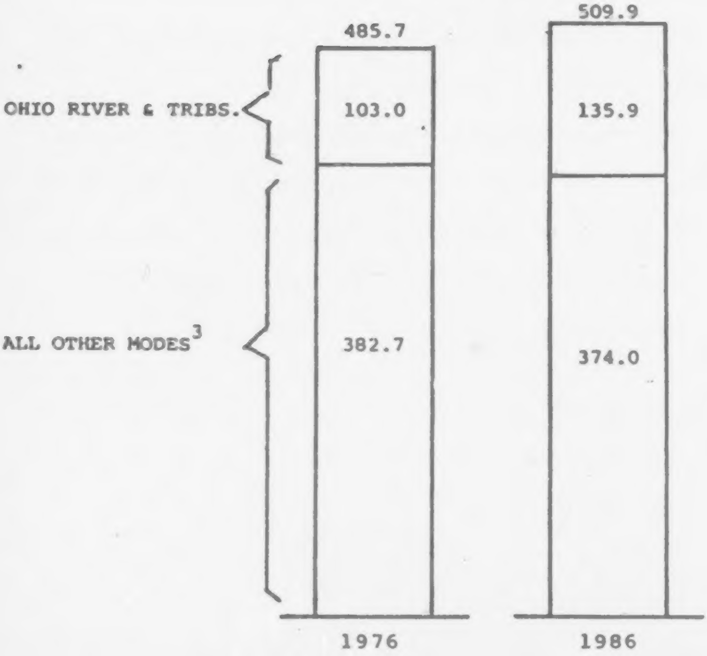
COAL PRODUCTION - OHIO RIVER BASIN COAL-PRODUCING DISTRICTS[1]

AND

COAL SHIPMENTS ON THE OHIO RIVER AND TRIBUTARIES[2]

1976 AND 1986

(Millions of Tons)



[1] The Ohio Basin coal producing districts are: #2 (western Pa.), #3 and #6 (northern W. Va.), #4 (Ohio), #7 (Va. & southeastern W. Va.), #8 (southern W. Va., eastern Ky., & eastern Tenn.), #9 (western Ky.), #10 (Ill.), #11 (Ind.), and #13 (southeastern Tenn., Ala., & Ga.).

[2] "Coal Shipments on the Ohio River and Tributaries" include all-river, rail-river, and truck-river.

[3] "All Other Modes" include all-rail, all-truck, and local consumption.

SOURCES: U. S. Department of Energy
U. S. Department of the Army, Corps of Engineers

Mississippi Rivers for export via the New Orleans area. This influence bears on rail rates on other movements as well.

In the 1970's only about a million tons of coal were exported yearly via New Orleans. But, after 1980 the riverborne export movement rose irregularly to 9.4 million tons in 1986. There appears little doubt that the two railroads set their Atlantic coast export rates with an eye on the waterway alternative. Shippers by rail thus have a substantial stake in the modernized river system.

Because of its low cost, waterway transport carries off the regional surplus to distant coal markets beyond reach by rail or truck, keeping coal competitive in these markets while sustaining values at the mine. In 1986, the river system carried 22.7 million tons of Ohio Basin coal to the Gulf Coast, some for export, but most for coastal utilities.

The "Multiplier" Community Impact

The benefits of riverborne coal are also pervasive in the number and extent of the communities affected. There are 24 coal-producing counties in Ohio, all in the eastern, or Appalachian, area. The 1980 population of these 24 counties was just over 1.7 million. The importance of coal mine revenues in the Appalachian counties can hardly be overstated.

Far from being confined to the mining personnel, coal mine revenues exert an impact on all varieties of local enterprise and public services. The initial income, of course, flows to those who contribute, directly or indirectly, to the production and shipment of the coal: mine employees, proprietors, investors and mine suppliers. Most of this is respent locally, creating additional income for enterprises such as retail stores and professional services and revenue for public agencies (schools, safety forces, health services, street maintenance, etc.). The local impact of this respending (commonly called the "multiplier") is generally estimated as being about equivalent to the initial income, that is, a doubling of such income. The prosperity of the coal industry thus permeates every feature of community life in the mining communities.

Ohio coal shipped on the rivers in 1986 had a value at the mine of $646.2 million.[1] Studies in Appalachian mining areas indicate that about $409.7 million of this was local income.[2] This includes payrolls, proprietors' income, supplies, maintenance, fuels, and other local purchases by the mining enterprises. Responding at a multiplier of two indicates total income from riverborne coal, direct and indirect, to the 1.7 million people of about $800 million.

In individual counties, the local impact is much greater. In some localities coal mining is the dominant economic activity. Taking, for example, the ten Ohio counties producing over 1.5 million tons each in 1986, the riverborne coal alone represented direct and indirect income of over $5,675 per household.[3]

Recognizing that the industry's growth over the past ten years has been entirely a growth in marketing via the rivers, it is clear that the consequence has been a sustained strength of wholesome community life and well-being in the principal coal-producing counties of Ohio and that their share in the projected growth of the coal industry into the Twenty-First Century is directly dependent on a modernized river navigation system.

Coal Tonnages Via Respective Lockage Sites

Something of the bearing of the river modernization program on the Ohio coal industry is indicated in Table I, representing tonnages and values of Ohio coal which, in 1986, transited respective sites programmed for improvement. Large as they are, these figures understate the impact. Waterway carriage has been growing since 1986. Furthermore, the figures do not show the substantial revenues to railroads and trucking firms of the large rail-river and truck-river movements. In 1986, in the mining districts of the Ohio Basin, 37.0 percent of the riverborne coal reached the barge-loading terminals by rail and 37.4 percent by truck.[4]

TABLE I.

TONNAGES AND VALUES OF OHIO COAL

SHIPPED VIA RESPECTIVE LOCKAGE SITES ON THE OHIO RIVER AND ITS TRIBUTARIE

1986

Via Programmed Improvement Sites

Lockage Sites	Tons	Mine Values[5]
Gallipolis Only	4,732,000	$ 155,210,000
Gallipolis, McAlpine, & Olmsted	125,000	4,100,000
Gallipolis, McAlpine, & Kentucky	2,638,000	86,526,000
Gallipolis & McAlpine	49,000	1,607,000
McAlpine Only	526,000	17,253,000
McAlpine & Olmsted	1,714,000	56,219,000
McAlpine & Kentucky	1,303,000	42,738,000
Totals Via Programmed Sites	11,087,000	$ 363,653,000
Via Modern Locks and Open River	8,613,000	282,506,000
Total Riverborne Shipments of Ohio Coal	19,700,000	$ 646,159,000

The Rising Urgency of Modernization

With the passage of time, the need for updating the Ohio River navigation system to modern standards becomes progressively more urgent. The present deteriorated works are subject to shut-downs for repairs with increasing frequency and duration, obstructing traffic, raising costs, and disrupting delivery and production schedules in the shipping and receiving industries. The affected industries include electric power, chemicals, iron and steel, refining and distribution of gasoline and fuel oil, and agriculture. Coal, as the largest waterway user, is the most concerned. Replacement projects require from five to ten years for completion, and every year heightens the urgency for relief. Expeditious progress is essential.

FOOTNOTES

[1] The Army Corps of Engineers reports river shipments of Ohio coal in 1986 at 19.7 million tons. The U. S. Dept. of Energy reports an average value at the mine of $32.80 per ton.

[2] The ratio of local income to mine value (.634) as reported by the Kentucky Coal Association, "Coal and the Kentucky Economy", Lexington, Kentucky, 1983.

[3] The ten counties are: Belmont, Coshocton, Harrison, Jefferson, Meigs, Monroe, Noble, Perry, Tuscarawas, and Vinton. The riverborne coal their mines originated had an estimated mine value of $522.7 million (80.9 percent of the state total), of which about $331.4 million was direct local income. At a "multiplier" effect of 2.0, an income may be inferred averaging $5,675 for each of the 116,793 households in the ten counties. (Number of households per U. S. Bureau of the Census.)

[4] U. S. Dept. of Energy, Energy Information Administration, Coal Distribution, January-December, 1986, Table 18.

[5] Mine values at $32.80 per ton, Ohio average, 1986, as reported by the U. S. Dept. of Energy.

ATTACHMENT III

THE IMPORTANCE OF THE
THE OHIO RIVER NAVIGATION SYSTEM
TO THE
THE ELECTRIC POWER INDUSTRY

A program for replacement or modernization of old lock-and-dam structures on the Ohio River and its navigable tributaries (the "Ohio River System") is now under way. It is important to the region directly served and to critical national objectives that this program be sustained at the full capability of the Army Corps of Engineers.

The System, consisting of the main stream of the Ohio and the navigable reaches of its tributaries, comprises 2,281 miles of interconnecting waterways with a minimum depth of nine feet or more. It plays a central role in the economy of the entire Ohio Basin, extending from Pittsburgh westerly to its confluence with the Mississippi and from northern Ohio and Indiana southward into northern Alabama.

Low-cost waterborne carriage on the System sustains a number of major industries. Among these, electric energy is of pervasive importance. The Ohio River Basin is blessed with an abundance of coal reserves, providing fuel for one of the largest concentrations of thermal generating stations in the nation, a concentration supplemented by numerous navigation-related hydropower stations. The coal is transferred from the mines to river terminals for the waterborne haul to riverside power plants. The average coal haul on the shallow-draft inland waterways of the United States in 1987 was 428 miles. Most of this was on the Ohio River System.

The nation's petroleum imports are now rising, with disturbing implications as to foreign policy and national security. The North American Electric Reliability Council, the utility industry's planning arm, estimates that about 101,000 megawatts of additional generating capacity will have to come into service nationwide by the year 2000. Other authoritative forecasts are higher, representing an expansion of some ten to fifteen percent. It is thus urgently in the national interest that much of this expansion take place on the banks of the Ohio River System, utilizing the abundant and internally secure domestic coal reserves and minimizing reliance on imported fuels. A fully modern and efficient navigation system is integral with this objective.

LOW COST OF WATERWAY-BASED ELECTRIC ENERGY

The thermal generating plants on the banks of the System consume coal almost exclusively. The Army Corps of Engineers reports that about 78 percent of all the waterborne coal moved on the System is consigned to electric power plants, the remainder to steel and other industries and for export. On this basis, it may be estimated that the riverside plants received about 82.9 million tons of waterborne coal in 1987, or just short of 75 percent of their total consumption. The remainder was received via land modes, usually for short distances and at water-competitive rail and trucking rates.

The unmatched low cost of river barging, especially of dry bulk commodities, constitutes an enormous saving in the cost of electricity. The typical barging rate per ton of coal in 1899 was only four miles per mile. (A mill is one-tenth of a cent.) At this rate, a ton of coal could be hauled 60 miles by river barge for less than the cost of a first-class postage stamp (25 cents). For uncontracted haulage, shippers sometimes had to pay "spot rates", as much as 50 percent higher. At this rate, the charge for hauling an average ton of coal 75 miles would be about the same as the U.S. postage on a two-ounce letter.

This transportation bargain converts itself into a lower cost of fuel at the power plant and of electricity for industries, farms, and households. In 1987, the average fuel cost at fossil-fueled power plants in the United States was 18.4 miles per kilowatt-hour. For plants on the Ohio River System it was only 14.3 mills. These riverside plants generated over 286.4 billion kilowatt-hours in 1987 at an aggregate fuel cost saving in this one year of about

$1.17 billion as compared with the national average. As a measure of magnitude, this was equivalent to about $119.00 for each of the 9.8 million households in the Ohio Basin. Actually, of course, much of the saving took the form of low rates to major industries, commercial establishments, and farms, thereby serving as a stimulus to production, employment, and incomes.

LIMITATIONS OF MINE-MOUTH PLANT LOCATION

Power plant location at the mine mouth has sometimes been heralded as an alternative to transportation of fuel. Such a location, of course, would usually involve a longer-distance transmission of electricity to service areas. It is, however, an alternative for only a limited number of mine locations. For one thing, power plants need an abundant water supply, often lacking at mine sites. Furthermore, the fuel requirements of a large thermal plant commonly exceed the capacity of any one mine of suitable location and coal quality. Finally, to meet standards of efficiency and environmental objectives, it is usual for a power plant to blend coals from a variety of sources. Siting on the banks of the Ohio River System accommodates these constraints at minimum cost.

Diversity of Origins of Waterborne Coal

The low fuel cost combines with the river-based abundant and stable water supply to identify the electric utility industry of the Ohio River System as the "National Power Production Region". River barging is intensely competitive, so that each riverside power plant has a wide choice of carriers, assuring low charges and high standards of service. In addition, low waterway costs exert a firm restraint on competitive railroad and trucking rates.

The Ohio River System, supplemented by the Mississippi, provides the utilities with a wide variety of coal analyses for optimum power generation and environmental protection. The river system interlaces the Appalachian coal fields, extending from Western Pennsylvania, West Virginia, Ohio, and Indiana on the north, south through Kentucky and Tennessee into northern Alabama, and west to embrace the western Kentucky and Illinois fields. Every waterway carrier enjoys unimpeded access, without transshipment, to all sectors of this extensive region.

In addition, low-sulfur western coal, mainly from Wyoming, enjoys good rail-water connections near the confulence of the Mississippi and Ohio Rivers for waterborne delivery in the Ohio Basin, supplementing the low-sulfur coals of West Virginia and eastern Kentucky.

Abundant and Stable Water Supply

The designation of the river-based utilities as the "National Power Production Center" is enhanced by the navigation-related abundance and stability of water supply. Power plants require lots of water, but do not consume it in significant amounts. About 98 or 99 percent of all the water they withdraw from the stream is subsequently discharged into the same stream and, with suitable treatment (mainly for temperature control) is thus made available for reuse by other industries and communities. These large-volume withdrawals mandate that the plant be located for a water supply which is not only plentiful but also dependable.

The navigation works on the Ohio River and its tributaries, some of which have been in service since the early years of the century, supplemented by upstream reservoirs, meet this need. In its uncontrolled state, the flow of the Upper Ohio River near Pittsburgh varied between a high of 557,000 and a low of 1,300 cubic feet per second, a ratio of 428:1. In the lower river, near Paducah, Kentucky, this ratio was about 80:1. During extremely high water, disastrous floods swept through the streets of Pittsburgh and Cincinnati. During low water, men waded across the river via the semi-stagnant pools in the river bed. Obviously, water intakes, if low enough to be always below the surface, in time of low water would draw sand and other bottom sediments into the power plant, while exhausting the supply of cool water in the depleted river.

The navigation dams solve this problem. Their main function is to maintain a navigable channel depth of at least nine feet, and most of the reaches of the navigable rivers permanently exceed this depth. In addition, the impoundments backed up by the dams assure sufficient volumes of water for the cooling function.

The navigation dams are supplemented by numerous non-navigable upstream storage reservoirs, or man-made lakes, on the many smaller tributaries above the head of navigation. In the late 1980's, there were 77 of these reservoirs throughout the basin. Among other purposes, important functions of these works include the complementary objectives of flood control and the augmentation of low flows in the downstream navigable reaches during dry seasons. During high-water periods, these reservoirs impound and hold great quantities of precipitation and runoff, saving downstream cities and rural communities from serious flood damage. Conversely, in dry seasons, releases from the reservoirs augment the rate of flow in the downstream navigable reaches, enhancing the river's current in a manner conducive to improved usability for electric utilities, as well as for other industries and commercial and residential communities. The upstream reservoirs thus complement the function of the navigation dams by permitting maintenances of the nine-foot channel without unacceptable stagnation of current. The Army Corps of Engineers reports that, during the drought of 1989, such releases increased the flow of the Ohio River at Cincinnati by 40 percent.

WATERBASED ELECTRIC ENERGY WITHIN AND BEYOND THE OHIO BASIN

On this foundation, electric power has become a specialization of the region, like corn in Iowa or orange juice in Florida. In 1987, the counties on the banks of the Ohio River System in the eight states the System serves had a population of 4.1 percent of the U.S. total. This includes such metropolitan areas as Pittsburgh, Cincinnati, Louisville, and Nashville, in addition to a large number of smaller communities. With only 4.1 percent of the nation's population, waterside electric plants in these counties produced 11.1 percent of the nation's electric power.

Navigation on the Ohio River System also supplies coal to generating stations outside the Basin. In 1987, some 12.5 million tons were carried all-water to plants on the Gulf Coast between New Orleans and Tampa, Florida. An additional 9.3 million moved all-water to plants on the Mississippi and Illinois Rivers, large tonnages of this to Memphis and Chicago.

Cargo originated by barge on the System was transferred at barge-to-rail terminals for delivery to power plants in north and central Georgia, to plants in Maryland, and via rail and lake to eastern Canada. All of this coal had to work its way through antiquated and run-down lockage structures on the originating streams.

PETROLEUM IMPORT EQUIVALENTS

The efficient transportation of Ohio River coal bears on U.S. foreign policy and national security. As petroleum consumption continues to mount, we are moving again into an era when most of the country's petroleum will have to be imported, raising the spectre of a return to the disruptions of the OPEC period and reliance of the nation's economy on the politically volatile Middle East. The coastal region is especially vulnerable to reliance on imported petroleum fuels.

The Ohio Basin coal shipped by water to generating plants on the banks of the Ohio River System in 1987 had a Btu content equivalent to 310.9 million barrels of petroleum fuels, that waterborne to Gulf utilities 46.8 million barrels, and that to power plants on the Mississippi and Illinois Rivers, about 34.9 million barrels. The three combined were equal to some 16.1 percent of the total U.S. importation of crude oil and petroleum products in 1987. The modernization of the navigation system carrying Ohio Basin coal to electric generating plants thus translates itself into a move towards energy independence with its overtones as to a strenghtened foreign policy and national security.

PERCENTAGES OF OHIO RIVER SYSTEM ENERGY TO STATE TOTALS

We have referred previously to the percentage of the System's electricity output to the national total. Its dominance in the supply in individual Ohio Basin states is even more striking. The System's riverside counties in Ohio, for example, are home to only 15.6 percent of the state's population. But, in 1987, their waterside plants generated 68.7 percent of Ohio's electricity. Only 10.0 percent of Hoosiers live in counties bordering the Ohio River. But, these counties produced 35.5 percent of Indiana's electricity. In Alabama, the corresponding percentages are 18.0 for population (on the Tennessee River) and 25.0 for electric power.

West Virginia is preeminently a river state. Three navigable rivers either adjoin or lie within West Virginia, and 50.3 percent of the people live in counties. In 1987, these produced 64.5 percent of the state's electric energy. Tennessee, also a river state, is served by two navigable tributaries of the Ohio. The riverside Tennessee counties are home to 36.9 percent of the state's population and, in 1987, produced 71.4 percent of the state's electricity. (This does not include Memphis on the Mississippi.)

MAGNITUDES OF STEAM POWER AND HYDRO POWER

Practically all the electric energy generated in Tennessee is produced by public agencies, either the Army Corps of Engineers or the Tennessee Valley Authority. Most of this output is from steam plants, the TVA having grown far beyond its one time main dedication to hydro power. Throughout the remainder of the Ohio River System, however, almost all the electric energy, something over 75.0 percent of the System's total, is produced by investor-owned utilities.

The figures cited include hydro power produced on the navigable reaches of these rivers, only 4.6 percent of the System total, and mainly on the Tennessee and the Cumberland. Some additional hydro power is now being developed at several of the large navigation locks-and-dams on the main stream of the Ohio.

Hydro power is a joint product of navigation. It is especially advantageous because of its low cost, its security as a domestic energy resource, and its environmental advantages. These are largely attributable to the navigation system. The multiple-purpose character of the dams on the Tennessee and the Cumberland include navigation and hydro power as joint benefits, the navigation function thereby establishing hydro power's economic feasibility. On the Ohio, the new hydro power works are a direct by-product of structures built mainly for navigation.

SERVICE AREAS OUTSIDE OF THE OHIO VALLEY

The power plants, both thermal and hydro, on the Ohio River System serve widespread inland populations and industries, many located far from the rivers. For example, in Ohio, such non-river cities as Columbus, Dayton, and Canton rely on the distant riverside stations for large portions of their energy supply. One large utility reports that, in a recent year, over 75.0 percent of the capacity of major riverside stations was utilized to serve remote-load areas via transmission lines ranging from 138 to 765 Kilovolts. At times, generating stations on the System's banks have provided backup power via long-distance, high-voltage inter-connections, to avert outages in cities as remote as New York, Detroit, and Roanoke.

HIGH UTILIZATION OF CAPACITY

The power plants on the Ohio River System are also remarkable for their high rate of capacity utilization. Consumer advocates have frequently complained that utility rates include too much cost recovery on unused plants. Whatever the merits of such complaint in particular cases, it has no validity with respect to the Ohio Valley plants. In 1987, the power plants on the banks of the Ohio River System generated 4,684 kilowatt-hours per kilowatt of capacity. The per-kilowatt output of all other plants in the U.S. was only 3,480 kilowatt-hours and of the non-riverside plants in the eight states directly served by the Ohio River System, only 3,396. The distinctively high rate of utilization by the riverside plants presumably reflects their base-load function as low-cost facilities combined with superior husbandry of power supply by energy-intensive industries. The savings to the consumer of low-cost fuel at the plant are thus enhanced by the minimization of excess capacity without sacrifice of reliability.

OHIO BASIN ENERGY-INTENSIVE INDUSTRIES

The low cost and abundance of electricity in the Ohio Valley underlies much of the region's industrial strength, especially for industries which are energy-intensive. Aluminum smelting, an electrolytic process, is especially notable. Major concentrations of chemical plants, also energy intensive, are located in the eastern Ohio Basin and the Tennessee Valley. According to the American Iron and Steel Institute, the steel produced by electric furnaces in the U.S. increased from 24.9 percent of the total in 1979 to 36.9 percent in 1988, a change associated with the increasing strength of the domestic industry in international competition.

The emerging industrial renaissance of the Northeast Quadrant of the United States includes an increasing element of newer high-technology, energy-intensive industries utilizing, for example, robotics in the motor vehicle, machinery, and appliance industries. Advanced food processing industries and computer technology are additional illustrations. American farming has become an energy-intensive industry, relying on an abundance of electric energy for powered machinery as well as floodlighting of outdoor work areas and of the interior of large structures. By means of these utilizations, the electric power of the Ohio Valley supports an extensive complex of basic industry enhancing the strength of the national economy in international competition, an asset of nationwide benefit. The efficient carriage of coal on the Ohio River System is a central feature of this role.

BENEFITS TO RAILROADS

The region's railroads also benefit considerably from the rail-water traffic. Most of the waterborne coal on the System originates or terminates by rail. For example, the largest coal shipping port on the Ohio River System is Huntington, West Virginia. Major coal-producing counties tributary to Huntington (Mingo, Boone, and Logan) are up the Big Sandy Valley, 75 or more rail miles from Huntington. Ohio Basin low-sulfur coal has been carried by barge on the Ohio River System to the Duquesne Wharf in Pittsburgh for transfer by Conrail and overland carriage to Maryland plants of the Baltimore Gas and Electric Co. The Norfolk Southern Railway operates a barge-to-rail terminal on the Tennessee River at Pride, Alabama, for receipt of waterborne Ohio Basin coal and transfer for rail delivery to plants of the Georgia Power Co. in north and central Georgia. Coal is also carried downstream on the Monongahela to Pittsburgh for further movement via rail and lake to Canadian generating stations. Examples could be multiplied.

The rail-water and water-rail linkages are a net benefit to the railroads. In the absence of low-cost waterway carriage, much of the alternative energy supply would take the form of fuel oil and natural gas, neither of which are carried in significant quantities by railroads. In 1987, only 2.6 percent of all the ton-miles of petroleum products moved in the United States were carried by railroads.

THE CLEAN-COAL PROGRAM

Critics have called coal a "dirty fuel", particularly with respect to stack emissions containing sulfur dioxide and nitrogen oxides, raising the issue called "acid rain" with injury to forests, wild life, and human health. Whatever the validity of these concerns, they are rapidly being laid to rest by the cleansing of coal. Increased use of the large low-sulfur reserves of the Ohio Basin is well under way. While the total coal movement on the Ohio River System increased during the ten years ending in 1987 by 32.9 percent, the originations in the low-sulfur areas of the Kanawha and Big Sandy Valleys multiplied over three-fold, an increase of 270 percent.

New clean-coal technologies are making rapid progress. The American Electric Power Co. has taken the process of pressurized, fluidized bed combustion (PFBC) out of the laboratory and is bringing a 70,000-kilowatt demonstration plant into service at Brilliant, Ohio, scheduled to open in July, 1990. This project looks toward completion in 1995 of the first commercial-sized PFBC plant of 330,000-kilowatt capacity at the Philip Sporn plant on the Ohio River in West Virginia. The PFBC technology eliminates 90 percent of the sulfur dioxide and 50 percent of the nitrogen oxide, while raising the electricity generated per Btu of fuel by 10 percent.

Meanwhile, the U.S Department of Energy has instituted a program of public-private investment in the amount of $1.3 billion. Under this program, the Ohio Edison Company is constructing a $66.2 million demonstration project at the Niles Station. This project incorporates a technology identified as NOXSO, with the prospect upon successful development of eliminating 97 percent of the sulfur dioxide and 50 percent of the nitrogen oxide. The Dayton Power and Light Company is undertaking a similar project at Aberdeen, Ohio on the Ohio River.

These processes along with many ofther multi-million dollar clean coal projects are now well beyond the laboratory stage, and the willingness of government and industry executives to commit such large sums to their incorporation into the system leaves little doubt as to their prospective success. It appears that by the end of the century, coal will have become a genuinely clean fuel.

THE CONSEQUENCES OF DELAY - THE EXAMPLE OF LOCKS NO. 26

The run-down and antiquated navigation structures of the Ohio River System are still moving traffic, at least efficiently enough to sustain the low-cost movement of coal during most of the 1990's. But, some are getting to be serious bottlenecks and cannot last much longer. Lead times for replacement are long--anywhere from five to ten years.

Something of the potentials of neglect is evident in recent experience on the Mississippi. A construction start to replace old Locks and Dam No. 26, near Alton, Illinois, was scheduled for 1974. Action was delayed, however, for some years by litigation. With the replacement not yet completed in 1989, a breakdown of a worn-out lock gate on the old structure led to the formation of a queue of cargo-laden vessels 40-miles long, each stalled for some six to seven days. An immobilized tow of barges, with its crew, represents a cost of $300 an hour or more, and the cost of a six-day wait for lock access would thus mount to something over $40,000 per tow.

Such a crisis, or worse, a series of such crises on the Ohio River and its tributaries at the turn of the century would emasculate the rich energy logistics of the Ohio River System electric power industry, with somber implications for U.S. energy supply and national security. There is no time to lose.

CENTRAL UTAH PROJECT

STATEMENT OF SENATOR JAKE GARN

Senator **DeConcini**. Next, we will have the Central Utah Water Conservancy District. Roscoe Garrett, chairman of the board and Don Christiansen is with him.

Senator Garn.

Senator **Garn**. Thank you very much, Mr. Chairman. I will save all of you my central Utah speech. I was telling the chairman as we were visiting here that he had heard it for the last 12 years. I will simply sum it up and place it utmost in his mind by telling him that it is just as important to Utah as the Central Arizona Project is to Arizona. That is all I need to say.

I am pleased to welcome Roscoe Garrett, chairman of the board and Don Christiansen, the general manager of the Central Utah Water Conservancy District back once again. In addition, we have

Dave Wilson from Wasatch County, Ron McKee from Unitah County, and Boyd Workman who are members of the Central Utah Board, and Betty Peterson who is an administrative assistant in the office. We are pleased to have you here once again, too.

PREPARED STATEMENT OF SENATOR HATCH OF UTAH

I also would ask that a statement by Senator Hatch be placed in the record. He is not able to be here. I thank you, Mr. Chairman, for your courtesy and your support.

[The statement follows:]

STATEMENT OF SENATOR ORRIN HATCH

It is a privilege to be here today and to express my strong support for the administration's budget request for various components of the central Utah project. It is also a privilege to be here with my friends from the Central Utah Water Conservancy District.

Mr. Chairman, I am certain you are well aware that the central Utah project is extremely important to the future of the State of Utah, and its completion has been of paramount importance to me all the years I have spent representing Utah.

For Utahns, the wise management of water is a necessity. It is a natural resource without which there can be no growth of any kind in our State. It was the recognition of the fact that Utah is one of the driest States in the Union which led to the development of the central Utah project: a project designed to allow the State of Utah to utilize water from our many mountain streams in a manner that would enable the State to control its destiny and growth.

What began as a vision is now nearing completion, but we must gain your support for continued funding. The President has asked that almost $82 million be appropriated and another $17 million be funded for recreation and fish and wildlife activities associated with the Bonneville unit.

I believe this is a very reasonable request and would ask that the subcommittee again see fit to support this project that is so vital to Utah.

CENTRAL UTAH PROJECT

STATEMENT OF ROSCOE GARRETT, CHAIRMAN OF THE BOARD, CENTRAL UTAH WATER CONSERVANCY DISTRICT

ACCOMPANIED BY DON CHRISTIANSEN, GENERAL MANAGER

Senator DECONCINI. Thank you, Senator Garn. You can be sure of the Arizona delegation's support. The Utah delegation has been very supportive of a number of projects for all of the West and certainly Arizona.

Mr. Garrett.

Mr. GARRETT. Thank you, Mr. Chairman.

Senator Garn, we appreciate your introduction. You have already introduced the people we have with us. Let me say that it is a pleasure to be here and support the budget requested by the Bureau of Reclamation. Usually, we are here wanting to up it.

This year we support the proposed budget, and I do want to thank the members of the committee. I realize we have got a lot of hurdles to cross, but without your help, we cannot in anyway get the Corps. I think it is a big milestone that our congressional delegation from Utah have worked unanimously together, and Mr. Garn, we appreciate your efforts in this behalf in getting the delegation together.

I realize you are short on time and will not burden you with a lot of oral testimony. I do appreciate the opportunity to be here and ask your continued support and please accept our written testimony into the record.

Senator DeConcini. Thank you, Mr. Garrett. Your full testimony or any additions we will put in the record, and I can assure you that Senator Garn keeps us well aware of the amount of money that has been requested. It is full funding I understand of $82 million and the committee will certainly do all we can to assist.

Senator Garn. To indicate the importance of this project, it is the primary reason that 12 years ago I joined the Appropriations Committee. That was not by accident. I left my beloved Armed Services Committee for the sole purpose of making sure that the central Arizona project was completed, so thank you.

Mr. Garrett. We do appreciate your help.

Senator DeConcini. Thank you very much.

[The statement follows:]

STATEMENT OF ROSCOE GARRETT

Mr. Chairman, members of the Committee, my name is Ross Garrett and I am the Chairman of the Board of the Central Utah Water Conservancy District. I am accompanied by Mr. Don Christiansen who is the District's General Manager as well as Rondal McKee, David Wilson, and Boyd Workman who are members of the CUWCD Board. In addition, Betty Peterson of our administrative staff is also with us today. It is my great pleasure to be here today to testify in support of the Bureau of Reclamation's construction budget for the Central Utah Project.

Initially, let me thank you and the other members of the Committee for the strong support which you have always given our project. While there are many hurdles which must be overcome in the future, we recognize that we would not be as far along as we are in the construction of the Central Utah Project if it were not for the strong support which you and your colleagues have given to our project in the past. In addition, I wish to publicly thank all of the members of our Utah congressional delegation for the strong support which they continue to give to our project.

The program which the Bureau of Reclamation has outlined for the Bonneville Unit of the Central Utah Project in Fiscal Year 1991 is an ambitious one. Altogether the Bureau has proposed spending nearly $82 million for ongoing construction. The Fiscal Year 1991 program involves work in three principal areas.

First, $1.6 million will be allocated to ongoing construction of the Bonneville Unit collection system. This will involve work at the Currant Creek Dam and Reservoir, operation and maintenance costs associated with the Soldier Creek Dam, the Strawberry Reservoir enlargement and associated collection works, and construction and installation of drains in the Taylor Canal area.

In addition, the Bureau has proposed $21.4 million for work associated with the Diamond Fork Power System. This includes preconstruction activities at the Monks Hollow Dam and Reservoir, preconstruction activities for the Diamond Fork power pipeline. The bulk of these funds, however, will be spent to continue construction of Syar Tunnel. Work will also continue on the Sixth Water Aqueduct.

Most of the funds budgeted for the Central Utah Project in Fiscal Year 1991 involve the municipal and industrial water system. Nearly $57 million will be spent to continue construction of the Jordanelle Dam which is the major water supply feature of the M&I system. Construction for Stage II of the Dam will continue and work on the relocating highways 40 and 149 will continue. Preconstruction activities associated with the Jordanelle Reservoir clearing will also be continued in Fiscal Year 1991. Other work being proposed for the municipal and industrial systems involves preconstruction activities associated with the Upper Provo River improvements as well as work associated with the Indian Ford pumping plant. Finally, some minor work will also be completed on the Jordan Aqueduct system.

All of the work proposed by the Bureau of Reclamation for Fiscal Year 1991 is vitally important in keeping the construction of this project on schedule. As members of this Committee are well aware, delays in construction of projects of this magnitude can only result in higher costs. Therefore, the CUWCD Board is strongly supportive of the Bureau of Reclamation's ambitious plans in Fiscal Year 1991. We are looking forward to the reauthorization of the irrigation and drainage features of the project and anticipate seeking additional funding for that in Fiscal Year 1992.

Again, Mr. Chairman, thank you for your strong support for our project and for allowing me the opportunity to testify before you today.

COLORADO WATER RESOURCE PROJECTS

STATEMENT OF J. WILLIAM McDONALD, DIRECTOR, COLORADO WATER CONSERVATION BOARD

Senator **DECONCINI**. My colleague from New Mexico, Senator Domenici, is going to take over the Chair while I go down to the Defense Appropriation Subcommittee.

Senator, I believe we are at the Colorado Water Conservation Board. Mr. J. William McDonald, the director, will be our next witness.

Mr. McDonald, the director of the Colorado Water Conservation Board, we look forward to your testimony and hope you understand we have a great number of witnesses, and we are already behind so we would appreciate whatever you could do to expedite your testimony. Prepared remarks will be made a part of the record.

Mr. **McDONALD**. Thank you, Senator. My name is Bill McDonald. I am here representing the Governor of Colorado and the Colorado Water Conservation Board of which I am the director. I will use 1 minute and yield the floor. I really would like to emphasis only three points. The details are in my written statement.

STATE SUPPORT FOR PRESIDENT'S BUDGET

The first is that the State of Colorado supports the President's budget in every regard as it pertains to the Bureau of Reclamation and Corps of Engineers projects in our State. We would encourage this committee to appropriate the sums that are contained in that budget request.

Second, I would emphasis to this committee, as you well know, Senator Domenici, that the State of Colorado in the past 5 years has been engaged in cost-sharing negotiations with the Bureau of Reclamation projects . We have been asked by the Bureau of Reclamation to make certain ownership arrangements to enable the Colorado River basin salinity control unit project to go forward.

We have had a critical Indian settlement that is the linchpin of two Bureau of Reclamation projects. I need to merely report to you and emphasize to you that we have accomplished in every single regard all of those requirements.

Cost sharing is literally money in the bank. All have been appropriated by the general assembly. Escrow agreements have been set up and cost sharing contracts have been signed, and there have been made binding commitments of money and what have you.

Third and most importantly, I would thank you personally, Senator, and the committee as a whole for past support. The last 5 years have been difficult. We have tried to be responsive to changing circumstances, and this committee's support has been greatly beneficial.

On a personal note, I might like to say that I trust your fine State engineer, who I regard personally as my mentor, is mending. I understand that Steve is in the hospital. We are all prayerful for his recovery. Thank you, Senator.

Senator **DOMENICI** [presiding]. Thank you very much. On your last note, we are aware of how serious is his condition. We are not aware of how he is going to come out of it, but I appreciate your concern. He truly is a national institution. No doubt about it. Thank you for your testimony.

Mr. McDONALD. Thank you.

Senator DOMENICI. I might just say from my standpoint, your brevity will be inversely rewarded by the committee.

Mr. McDONALD. Thank you.

[The statement follows:]

STATEMENT OF J. WILLIAM McDONALD

Summary of Requests

Colorado supports the President's budget request for Bureau of Reclamation and Corps of Engineers projects in our state. We respectfully request that Congress appropriate all of the sums set forth in the President's budget.

Introduction

This statement is submitted by the Honorable Roy Romer, Governor of Colorado; Mr. Hamlet J. Barry, III, Executive Director of the Colorado Department of Natural Resources; and the Colorado Water Conservation Board, which is the state agency charged with the development of Colorado's water resources.

Bureau of Reclamation (Construction Program)

Animas-La Plata Project. This is a joint Colorado-New Mexico project designed, among other things, to address the water supply problems which confront the Indian reservations in the project area. Other components of the project will serve non-Indian populations in Colorado and New Mexico with municipal water. Finally, project water will significantly strengthen the agricultural economy of southwestern Colorado.

In December, 1986, the United States, State of Colorado, Ute Mountain Ute Tribe, Southern Ute Tribe, and non-Indian water users in southwestern Colorado entered into an agreement settling the Tribes' long-standing reserved water rights claims, thereby avoiding costly and divisive litigation. The necessary implementing legislation--the Colorado Ute Indian Water Rights Settlement Act (P.L. 100-585)--was enacted in 1988.

The settlement has three major components:

(i) The delivery to the Tribes of water from the Animas-La Plata and Dolores Projects and the quantification of additional water for the Tribes on various streams.

(ii) The establishment of Tribal development funds to assist the Tribes in making their reservations economically self-sufficient, and

(iii) The waiver by the Tribes of all of their reserved water rights claims.

The linch pin of the settlement is the provision of water to the two Tribes from the Dolores Project, which is nearing completion, and the Animas-La Plata Project, which did not receive its first construction appropriation until FY 1986 even though it was authorized by Congress in 1968 and was to have been built concurrently with the first delivery of water to the Central Arizona Project. The additional water provided by these projects will permit the continuance of non-Indian economies dependent upon existing water supplies, while simultaneously providing the Tribes with water.

In light of the importance of the Animas-La Plata Project to the settlement, the State of Colorado and local water users have agreed to non-federally finance 38 percent of the cost of the project. Colorado has already appropriated all of the money which it is obligated to provide and has executed all necessary escrow agreements and contracts with the Bureau of Reclamation.

As part of these cost-sharing arrangements, the Department of the Interior has committed to a 12-year construction schedule for the project. Failure to meet that schedule could unravel the settlement agreement as it pertains to two of the rivers involved.

To achieve this schedule, we believe that every dollar of the President's budget request for $13.4 million is needed. We ask Congress to continue its commitment to this project, the Tribes, and the state by appropriating the funds needed to maintain the 12-year construction schedule.

Other On-Going Projects. We urge Congress to maintain the funding requested by the President for construction on three other on-going projects--the Closed Basin, Dolores, and Fryingpan-Arkansas Projects. Each of these is nearing completion and should be a high priority for funding. Furthermore, the Closed Basin Project will benefit both New Mexico and Texas and, as mentioned above, the Dolores Project is an integral component of the Ute Indian water rights settlement.

With respect to the Closed Basin Project, the cost-sharing required by amendatory legislation passed in 1988 was consummated in June, 1989, with the execution of an agreement between the Bureau of Reclamation and the Colorado Water Conservation Board. All funds required of Colorado have been appropriated by the state legislature and are committed by the subject agreement.

Bureau of Reclamation (Colorado River Salinity Program)

The seven states of the Colorado River Basin have endorsed a coordinated, basinwide approach to the reduction of salinity in the Colorado River. The salinity control units being planned and constructed by the Bureau of Reclamation are an integral component of the overall salinity control program.

We would call your attention to the detailed statement being submitted on behalf of the seven basin states, acting through the Colorado River Basin Salinity Control Forum, in which statement Colorado concurs. The Forum seeks, and Colorado supports, the sums set forth in the President's budget request.

Colorado is particularly pleased with the President's budget request for construction on the Lower Gunnison Salinity Control Unit (winter water system) and continuing construction on the Grand Valley Salinity Control Unit. In both instances, the state and local water users have, at the Bureau's request, accomplished certain activities and prerequisites in order to enable these salinity control units to go forward. We have met the schedules requested of us by the Bureau for its benefit. The President's budget will, as it should, maintain those schedules.

Corps of Engineers

The sums contained in the President's recommended budget are adequate for the timely execution and continuation of federal flood control projects in Colorado. We would caution, however, that any reduction in these budget requests would unnecessarily jeopardize the lives and properties of many thousands of Coloradans.

We support the President's recommended budget for continuing construction on the Westerly Creek flood control project in Denver and Aurora. This project is needed to enable local governments in the area to solve problems upstream from the proposed federal project, which would be located on Lowry Air Force Base. Those upstream problems cannot be addressed until the federal project goes forward.

We also support the President's budget request to continue preconstruction engineering and design work for the proposed flood control project at Alamosa. This project will provide protection to the heart of downtown Alamosa and is badly needed.

Finally, we would thank Congress for its past support of the Fountain Creek flood control project in Pueblo, which was completed last year. This project will enable redevelopment activities which are of great importance to the economic welfare of that community to go forward. Your assistance is greatly appreciated.

VALLEY PARK, MO, FLOOD CONTROL PROJECT

STATEMENT OF FRED PALMER, MAYOR, VALLEY PARK, MO

ACCOMPANIED BY:

- **GARY ADAMS, ALDERMAN, CITY OF VALLEY PARK, MO**
- **RICHARD NICOLAS, ALDERMAN, VALLEY PARK, MO**
- **DR. JOHN J. CLEARY, SUPERINTENDENT, VALLEY PARK SCHOOL DISTRICT**
- **MARGUERITE WILBURN, BOARD MEMBER, VALLEY PARK FIRE DISTRICT**
- **EDGAR WALKER, BOARD MEMBER, VALLEY PARK FIRE DISTRICT**

Senator DOMENICI. All right, if Senator Danforth and the Missouri witnesses will come with him, the city of Valley Park mayor, Fred Palmer.

All right; city of Valley Park.

Senator Danforth, we are glad to have you.

Senator DANFORTH. Mr. Chairman, if brevity is inversely rewarded, that concludes my testimony.

Senator DOMENICI. Thank you very much. I am glad to have you. You look well today.

Senator DANFORTH. I congratulate you on seizing control of the Appropriations Committee, Mr. Chairman. It is good to see you running the show.

Senator DOMENICI. At this point, it is purely out of generosity.

Senator DANFORTH. Mr. Chairman, I have been to Valley Park. I flew over it during the catastrophic flood of 1982. It was a total disaster. It caused more than an estimated $100 million of damage to a single community when the Meramec River flooded. It is an established community that continues to be at risk, and this is a levee project.

The city of Valley Park is already committed to its share of the match, and what it seeks today from this committee is $500,000 for fiscal year 1991 which would begin a construction project that is ready to go and that would take 4 years to complete.

I can tell the committee that this is a matter I have seen firsthand, and there is absolutely no doubt that this is a matter of urgent need to the people of Valley Park, MO, and they are very, very deserving in this case. The mayor of Valley Park, Mr. Fred Palmer, is here together with some councilmen of Valley Park, and I would like now, if the Chair pleases, to have the mayor recognized.

Senator DOMENICI. We would be pleased to do that.

Mr. Mayor, we are delighted to have you. If you have any councilmen you would like to have introduced, we would be glad to have them introduced into the record. We urge that you be as brief as possible.

Let me suggest, however, that I do not think the issue from what I gather on this project is its merit, but rather the allocation of resources to this subcommittee, and the position that the subcommittee may have to take regarding new construction projects. It appears at this point that we do not have sufficient funding for those that we have already started and are in need of their multiyear funding, but obviously, the case is a sound one.

Mr. Mayor.

Mr. PALMER. Thank you, Mr. Chairman and thank you, Senator Danforth. The city of Valley Park appreciates you and your help with this project. If I may, Mr. Chairman, there are some folks that did come from Valley Park with me to accompany me in support of this proposed project that I would like to recognize and possibly, they could stand up.

My wife Jill is present. The president of our city council, Alderman Adams, and his wife Dina are here. The alderman from our third ward, Richard Nicholas, and his wife Jan are present. The superintendent of Valley Park Schools is here in support of the program, Dr. John Cleary. Two fire board members—one, Marguerite Wilburn and her husband Dan are present—and Edgar Walker and his wife Connie are present.

Our city attorney, Mr. Eric Martin, his wife Becky, and son Erin are also present, and one business, the Meramec Valley Bank, that has been in our community for many, many years that has seen many floods. The president of the bank, Mr. Bill Jones, Jr., is present. They have testimony that we would like to have entered into the record. For the sake of time, I would appreciate it if it could be done.

Senator DOMENICI. Let me thank all of the witnesses for taking time to come to Washington and to this hearing. We are glad to have you, and we will have your written testimony made part of the record. Your interests will obviously be recognized. It is not easy to have this kind of disaster and most of us understand it. Thank you very much for coming.

Mayor, did you have anything further?

Mr. **Palmer**. The only thing I would like to say, Mr. Chairman, is to thank you and all of your people for your time and consideration of our request. We are prepared to meet our share of the cost of this vital project, and I hope and pray that the Federal Government is also. Thank you very much, sir.

Senator **Domenici**. Thank you very much, Mayor, and thanks again to you, Senator Danforth. We very much appreciate your coming with your constituents.

Senator **Danforth**. Thank you, Senator Domenici.

[The statements follow:]

STATEMENT OF FRED L. PALMER, JR.

Mr. Chairman, I appreciate the opportunity to appear before your committee today to testify in support of a flood control project designed by the U.S. Army Corps. of Engineers and now ready for construction after so many years.

The Congress, recognizing the repeated devastation caused by flooding in the Lower Meramec Valley over the last hundred years, authorized in Section 2(h), PL 971-28, a Levee to afford the town of Valley Park protection from the ravaging floods which have so debilitated the social, economic and environmental fabric of our community. Mr. Chairman, you have no idea how much this action by the Congress meant to the people who work, live and play in our environs.

Planning, engineering and design have progressed to the point that our project is now ready for construction to begin. Unfortunately, our project has not been funded yet for construction, and that is why we are here today. In recent years, one of the more severe floods occurred in December of 1982. Water from the Meramec at Valley Park left its banks on December 3rd. The Valley Park School District was forced to close on December 6th and the river crested on December 7th, Pearl Harbor Day, 20-1/2 feet above flood stage. We were in the midst of a major disaster of crippling proportions.

The School District alone suffered over two million dollars in damages and we are not a wealthy School District. To put the situation in real life terms, consider these facts:

--The entire School District was closed for two weeks;
--Elementary school children were forced to attend a school in another district;
--The secondary school children were unable to attend their normal school for two weeks; and
--All elementary teachers and many secondary teachers lost all supplies, teaching materials and lesson plans.

Of course, the entire town of Valley Park suffered tremendous losses in human, economic and societal terms. Just this one flood caused more than thirty million dollars in documented losses and damages. People had to be rescued from their homes by emergency vehicles and boats - forced to leave behind their homes, clothing, furniture and possessions of great sentimental value.

Mr. Chairman, you would have to have been there to feel the depth of our tragedy and suffering. In order to assist the Committee to better understand what it was like in Valley Park in December of 1982, we have brought some photos of that flood for you to see.

Our town's history of flooding has been well documented over the last 109 years. In fact, our problems have been thoroughly studied by the federal government, with the federal studies dating back to one completed in 1881. Now, the Congress has authorized the Corps of Engineers to prepare a solution to our flooding problems and you have approved that solution. It is a levee, about three miles long, 15-20 feet high in most areas, which will provide us with protection from the 100 year flood. There will also be other features such as pumps, drains, ponding areas and closure structures, as well as recreation areas and fishing lakes. You have appropriated funds to allow for the necessary engineering and design to allow the Corps in St. Louis to be prepared to initiate construction, possibly this Fall, if construction funds are appropriated by the Congress and not held up by the Administration.

This project's total cost will be less than one half of the damages we suffered in the 1982 flood alone. Of the total cost, the City of Valley park has signed a Local Cost Sharing Agreement with the Corps, pledging to pay our share of about four million dollars of the total cost of around thirteen million dollars. We have taken steps to raise our share by forming a special taxing district - for our share is a substantial mount of money for our town, but we will pay our share.

Mr. Chairman, we are here today to plead our case. We ask you and your fellow members to appropriate five hundred thousand dollars or more so that we can look down the path of the future and see a safe place to live, work and play; so that we can attract the new industries and businesses that would like to locate in our town due to its proximity to Interstate 44, a new state highway and bridge which now provide even better access to our area.

Mr. Chairman, the key to our being able to reverse the downward trends, to revive our economy and provide security to our homes, schools, businesses and all our people is the construction of the flood control project authorized by you and your fellow members of the U.S. Congress. Mr. Chairman, we have done everything we can. Now it is in your hands.

I am most hopeful that you will give our needs careful consideration and that you will realized that his is a perfect opportunity for the Federal and local governments and the people to join together and provide funds for this investment in a small part of America. Thank you Mr. Chairman, for your time, patience and understanding.

STATEMENT OF DR. JOHN J. CLERY

Mr. Chairman. Thank you for this opportunity to appear here today to testify in support of a flood levee for the City of Valley Park.

Nine years ago, the Valley Park School District, along with residents and businesses of our community, experienced a devastating flood. The district sustained $2 million in damages. Five of our six school buildings had six to nine feet of water in them. All the elementary teachers, plus many secondary teachers lost their teaching materials, lesson plans, and personal items. For some this was 30 years' worth. Our entire school district was closed for two weeks.

Twenty-five percent of our children and their parents lost their homes, clothes and personal effects. For these children it was a double tragedy, because their home away from home -- the school -- was damaged also. The flood waters were swift and destructive, and very little was saved.

As an example of how important school was to the lives of these children, I would like to share an anecdote. A few days after the river had crested, one of our senior basketball players came down to school. His home had gone totally under water. With a smile on his face, he went looking for the basketball coach to proudly announce that when his family was desperately trying to get a few personal items out of the home he managed to save his basketball uniform.

Teachers, students, support staff, administrators, and community volunteers worked 10 to 12 hours a day to clean-up the debris and to sanitize the buildings and equipment to insure the safe return of students and staff. Every textbook and piece of paper that came in contact with flood water had to be thrown away. It was a sad sight to see band uniforms and 10,000 library books in a trash dumpster.

Secondary students returned to a near normal school routine two weeks after the river crested, but our 500 elementary children spent the next three months traveling to a rented school building in a neighboring district.

Three times since '82 the Meramec River flood has threatened to repeat itself. Teachers had to stop the educational process, pack-up all materials and move them to higher ground. At the close of each school year this same packing and moving procedure takes place to insure that the district is prepared if a flood would occur during the summer when the buildings are unstaffed.

Since the Valley Park School District is located in a flood plain, new construction is very difficult and costly. Recently, the district needed to expand the elementary school. A second floor addition had to be created for the eight new classrooms, because the construction had to take place out of the flood plain. It was very expensive to have this new addition erected on piers.

In addition to the physical cost of a flood, there is the psychological cost that can never be measured in dollar amounts. A flood causes severe interruption to the educational mission of a school district. The emotional trauma that students and staff experience impact negatively on their lives. It can take months or years for them to overcome the scars caused by such a tragedy.

Mr. Chairman, on behalf of the students and staff of the Valley Park School District, I thank you for this opportunity to speak, and I urge you to support the appropriation of the federal funding for the levee.

STATEMENT OF MARGUERITE WILBURN, ON BEHALF OF THE VALLEY PARK FIRE DISTRICT

I, Marguerite Wilburn, am present today on behalf of our Chairman, Kenneth Steele, to present this statement.

Mr. Chairman, the Board of Directors of the Valley Park Fire Protection District wishes to add their support on behalf of the Valley Park Flood Control Project, Lower Meramec Valley. Much of our Fire District lies within the Valley Park area, and our present Firehouse is within the flood plain area.

The lack of a Levee and the flood control impacts the Fire District's ability to provide emergency services, both Fire and Ambulance, to the residents of the Fire District, each time the City of Valley Park floods. In 1982, the approximate cost to the District, primarily to the Fire Station and the District's records, was approximately $13,000.00, and just five (5) months later, the historic flood of 1983 caused an additional $10,000.00 in damage to the Fire District.

The flooding in the Fire District, of course, creates an immediate need for emergency rescue of a portion of the population by emergency vehicles and boats, and the temporary abandonment by those rescued of their homes, clothing, furniture and possessions. On those occasions, the capacity of the District to respond to the emergency needs, are strained. Flooding causes slower response times, both to fire and rescue/ambulance related calls. The servicing of those immediate needs correspondently creates a diminishing ability to provide services to the population in other areas of the District not affected by the flood.

The flood control project under consideration would, of course, mean an alleviation from the threat of floods and would relieve the Fire District from stretching its resources during those times of the year previously threatened by rising water. The construction of the levy would create for the Fire District a more stable tax base and would make available for development, land in the flood plain which has been bypassed for years because of the flood problem.

The Fire District has under consideration, the construction of a second Fire Station located out of the flood plain, and strategically placed to better serve our expanding District, which Fire Station will be built through an Inter-Governmental Agreement, if this project is funded.

The project cannot be built without your help. The economic future of the entire area, and of the Valley Park Fire District, largely depends upon the support of the Federal Government, in providing funds for this project.

The Directors of the Valley Park Fire Protection District support this project, and we ask for your help in making it a reality.

STATEMENT OF VALLEY PARK, MO, SCHOOL DISTRICT

On December 3, 1982 the waters of the Meramec River left its banks. By the time the river crested on December 7, at 20 1/2 feet above flood stage, extensive damage with a dollar figure in the amount of $30 million had been sustained by families, homes, businesses, and buildings in Valley Park. The devastation created was great in terms of property damage and the loss of a life time of personal possessions. Young and old alike suffered physical and emotional pain.

We, the members of the Valley Park School District Board of Educaton, unanimously ask your support in securing federal funding for the construction of a flood levee for the City of Valley Park. This levee would insure that another flood like the one in 1982 would never happen again to the good people of this community.

In terms of losses to the Valley Park School District, two million dollars was needed for repairs to the buildings and replacement of supplies. For two weeks the entire school district was shut down. Elementary school children attended school in a building rented from a neighboring district until February. Every elementary teacher lost a career's worth of support materials and lesson plans. For some, that was 30 years' worth. The loss of educational opportunities can never be measured. The athletes and athletic program suffered. Every basketball, softball, and baseball game had to be played away at another school.

The City of Valley Park stands ready to pay its share of the levee construction cost. All that needs to be done is the approval of the federal funding. We urge you to get involved and make a flood levee in Valley Park a reality.

STATEMENT OF JEFF METTER, KIRKWOOD, MO

My name is Jeff Metter and I am in the seventh grade. I attend Valley Park Center School and live in Kirkwood. I am sending you this letter to ask you to help Valley Park build a levee to keep flood waters from the Meramec River from destroying our school and homes. Please fund the Valley Park Flood Control Project Authorized Public Law 97-128.

In the year of 1982 the water went over the banks on December 3. Valley Park closed their schools on December 6. When the river stopped flooding it was 20 and 1/2 feet above flood stage. The damage of the flood cost a lot of money. It also cost a lot of people personal things. The damage to the school cost about 2 million dollars and the damage to the city cost about 30 million dollars.

I was going to Valley Park when the flood occured. I live far enough away from the river that I did not get flooded. None of my family got flooded, but the rest of the town was a disaster. So now I am asking you to help build a levee to help save the town of Valley Park.

STATEMENT OF RICHARD NICOLAS, ALDERMAN, VALLEY PARK, MO

I am honored to be able to have this opportunity to submit this written testimony for the record so as to save time. I am here today at my own expence, but that is a small price to pay for your support of Valley Park, Missouri flood control Project 97-128. Authorized by Congress and the Corps of Engineers.

Valley Park Missouri is a small community 23 miles west of St. Louis nestled in the Meramec Valley boardered by the Meramec River. It's a small town seasoned with ethnic and religious background. Has a taste of small town America and "neighborhood" concept. The city provides a "AAA" school system that's 108 years old. It's local business' believe in customer satisfaction and who know there customers by name. People in this town work hard and stick together. Town folk boys marry town folk girls and raise there families here and have for generations.

In December 1982 my worst fears became a reality. The Meramec river left it's banks and produced the worst recorded flood in history. Again in May 1983 it came back not as bad but enough to damage homes again that had just been partially repaired from the December flood. I cannot put into words the horror we went through in 1982. Some people lost all there belongings and family keepsakes. Some came to the higher ground in boats furnished by the National Guard with just the clothes on their backs.

I can only tell you my fears that night. I put part of my family in a cost guard boat not knowing if I and my father in law who was crippled would have time to wait for the next boat. My families greates personal keepsakes lost were films we had of our eight kids growing up. We lost our oldest son at 22 years and one at 4 years. Never again could we see their faces, hear their laughter or cries. Money cannot replace irrecplaceable keepsakes.

When the water went down 4 days later we proceeded back to our home only to find our home, belongings, and momentos destroyed for no reason. The stench of mud, water and dead animals was beyond comprehension.

All the Christmas gifts ruined, our kids Christmas tree twisted and ornaments broken, left us with no Christmas but we had our health and determination to see a better day ahead.

When farmers need rain they pray for it. When it rains in Valley Park we pray for fear of flooding. I invite any and all of you to visit my home town of Valley Park Missouri. We will show you first hand what the devistation of the floods of 82 and 83 did.

Study the flood pictures observe the frustration and pain on victims faces. See grown men and women cry with despair. With F.I.M.A. guide lines of 50 percent rule we cannot rebuild to our fullest potential. Now with widening of Highway 141 we have lost what was left of our business district. A tax base we cannot recoop.

Mr. Chairman, this flood control project has been talked about since 1881. We in Valley Park have done everything we were told to do to secure funding. We have created a new zoning ordinance, building code, and additional necessary ordinances and annexations of property to create a Tax Incrimate Finance District. Which captures funds now available to pay our fair share of the levee. When I was told by Colonel Lee McKinney our levee consultant to get letters to Washington.

I formed a committee called "Project Write", in 24 days we mustard out of this small town 8,245 letters we sent to Washington. The 11 people on the committee "Project Write" worked 7 days a week and 18 hours a day to hand address, lick, and stamp the envelopes. I think the letters tell a more detailed personal account of devestation by the floods of 82 and 83. By building this levee we could rebuild this town to its fullest potential, insure a better quality of life and rid ourselves of the unbrideled violence of nature.

In closing just think of an energetic town that is ready to go full swing realizing never before ball fields, hiking trails, fishing lakes, and other things plus security and peace of mind. I hope and pray you will find it in your hearts to help us secure this sound fundable project desperately needed levee called Valley Park Flood Control Project 97-128. This would restore our pioneer spirit of pride in our town of Valley Park.

STATEMENT OF CATHY BARNETT, VALLEY PARK, MO

Our community is in desperate need of your assistance. We need a levee to insure our existence. Without it, our community lives in constant fear of flooding.

Most people enjoy a good slow rain that might last a day or two. Farmers pray for rain for good crops. However, the citizens of our community live in fear of rains that might cause flooding.

During the flood of December 1982, we watched the majority of our community; residential, commercial and industrial, suffer catastrophic looses due to record flood stages which put 6 to 6 feet of water in all our homes and businesses. We watched the employees of the Corp of Engineers go under the stop lights at Marshall and Hwy 141 and touch them sitting down in their boats. We all cried and prayed together for the folks who were missing for hours on end, who were later found in the second stories or on the roofs of their homes that were surrounded by 6 to 8 feet of water.

We all spent several months cleaning up the mess from the flood of December of '82. Tearing out walls and insulation that were wet and mud soaked, working day and night to try to get folks back into their homes. Unfortunately, many folks got back into their homes, got comfortable, started to feel safe again and then another flood hit us in early April of '83. Not as devastating as the first, only 12-16" in most homes. Just enough to remind us all that we are not safe.

Our community wants to grow. We want to attract new families and businesses. We want folks to feel comfortable and safe in our town. Please help us get the funding we need to get a levee built. Help us feel good about a slow gentle rain that last more than a few days.

STATEMENT OF THE CITY OF VALLEY PARK, MO

Mr. Chairman, I, like so many other citizens of Valley Park, Missouri was personally affected by devastating floods in 1982 and 1983. My home and all my possessions were destroyed when rapidly rising floodwater inundated the entire city. Although I was fortunate to have flood insurance, partially insuring my property, many of my family and friends did not.

My business is now in Valley Park and my wife is employed by Valley Park's largest employer, a cotton processing firm. Both businesses are subject to being interrupted by flooding, again. The community and my family will perhaps never recover from another disaster such as occurred in 1982.

I firmly support the Corps of Engineers plan for a levee and urge your recommendation to appropriate monies for this project. We want to grow and prosper in Valley Park, but are constrained, without a levee, from building or growing.

Thank you and your members for your concern.

STATEMENT OF FREDIE L. PALMER, SR., VALLEY PARK, MO

I am writing this letter to let you know that I support the Valley Park Levee Project.

I have lived in Valley Park for 76 Years and have seen many floods. It is time to do something about protecting our city.

Please give your support to appropriating money to begin this project.

STATEMENT OF CHRIS AND DENISE DANCY, VALLEY PARK, MO

Our home town, Valley Park, Missouri, is a taste of small-town America, seasoned with the advantages of living on the periphery of a progressive metropolis. Valley Park is a fine city that provides its residents with a true sense of "neighborhood": The city offers a triple-A school system, local businesspeople who believe in customer service and know their customers by name, and neighbors who will lend you a cup of sugar, or offer to pick up you newspapers or take care of your dog when you are going out of town.

So what more could we ask for in a community? Protection from one of its most aesthetically attractive features---the Meramec River.

In 1982, Valley Park suffered $30 million worth of damage when the river spilled over its banks, flooding the city. However, the residents of Valley Park have more invested here than simply money. We have also invested our families' lives and futures.

Please help us protect our investments by supporting the Valley Park Flood Control Project. The money invested now will prevent not only the destruction of property and the need for financial support in the event of flooding, but the potential loss of livelihoods and lives.

STATEMENT OF MR. AND MRS. MICHAEL P. WIEDA, VALLEY PARK, MO

As residents of the City of Valley Park, Missouri, we strongly urge your support for funding the proposed levee project along the Meramec River.

Without the levee, we are not sure how long the town can survive, especially if we have (God forbid) another flood like the one of December 1982. Each time a flood comes it causes heartache, more devestation and hardship for the whole town. Not only does it wreck havoc on the residents; it causes untold grief for the schools, churches, and businesses here.

This is a nice little city with loving people who care for their homes, families and friends. We had relatives who lived in Times Beach, Mo., who were displaced by the E.P.A as a result of the Dioxin problem. While none of that was their fault, they suffered deeply from it. Continuous flooding could cause the same displacement of this town---please do not let this happen to Valley Park!

Please, please support this funding for the levee. Our lives and those of our families and friends are depending on you.

STATEMENT OF RICHARD G. WRIGHT, VALLEY PARK, MO

As an employer of Valley Park residents, I want to stress the importance of "the levee of 1990".

Our company believes in employing as many local residents as possible. "Keep the money at home" so to speak. We have seen our employees suffer great monetary and personal losses due to floods. Our company has also suffered these same losses.

Please authorize the necessary measures to assure the construction of "the levee of 1990" for Valley Park, Missouri. Thank you.

STATEMENT OF BOB CORDES, VALLEY PARK, MO

Sno Cap Ice Company has been located in Valley Park for the past 20 years, and in that time period we have seen water in our building a minimum of six times. Several times at 4 feet and the big flood of December 5th, 1982, in which we received 12-1/2 feet of water in the building. That flood was originally projected as another 4 foot flood. We prepared the best for 4 feet, but we might as well have just walked out of the building that day and have done nothing. Ten thousand square feet of refrigeration equipment, trucks, forklift, motorcycles, 50 ice storage boxes, office supplies, records and furniture ruined.

It's bad enough that we get all the water but when all the mud comes with it, it gets into everything.

I could go on and on about things we lost and things that were ruined. The frightening thing is that this could happen again.

Financially, another round with a big flood will probably cause us to get out of town. It took three years for us to pay off loans for money we had to borrow to pay for damages from the December 5th flood. We now have flood insurance, but we can't afford the down time it takes to recover from another flood.

If you could have only seen first hand what devastation was left after the water left its mark, it would have made you sick to your stomach.

For this town to continue on and grow along with the communities around it, we need protection. It's hard to believe it's been over seven years since that wall of water hit our town, and we are still no further along in protection now as we were then.

Please help us protect our town so we can grow and prosper with peace of mind.

STATEMENT OF JEAN M. KEEDY, VALLEY PARK, MO

As a new resident of the Valley Park area, I am urging you to support the necessary legislation for funding the flood levee project in Valley Park, Missouri which is being considered in the 1991 congressional budget.

As you know, several devastating floods have occurred in the past in this area, and we must prevent this from happening in the future. Many people in this area are in the lower economic bracket and cannot afford the necessary flood insurance. We can prevent this hardship from happening again.

Thank you.

STATEMENT OF CARL STRUBE, VALLEY PARK, MO

Thank you for your time in considering the problems of flooding in Valley Park. I have lived here for over eight years and I saw and experienced the devastation of the 1982 flood. We are a small community but there are over 300 homes that are directly affected by potential flooding of the Meramec River. We also have a substantial industrial area which would be protected by the proposed levee and this community's ecomony would be drastically effected if they were to decide to move because of losses from another flood. If the proposed levee is not approved, I believe property owners could make choices regarding their property that could have an effect on low to middle income houseing in this area similar to the Times Beach "buy-out". Not everyone in West county can afford a $ 300,000.00 house and the moderately priced houseing and rental property in Valley Park meets a valid, pressing need. I therefore urge you to do all you can to have the proposed levee included in the budget for congressional consideration and that you will personally vote for the funding.

STATEMENT OF JEANNIE J. SMITH, VALLEY PARK, MO

THIS LETTER IS TO URGE YOUR SUPPORT FOR FEDERAL FUNDING OF A LEVEE FOR VALLEY PARK, MISSOURI. THE PROGRAM HAS BEEN PENDING FOR SOME TIME AND IT IS VERY IMPORTANT FOR IT TO MOVE FORWARD.

VALLEY PARK IS AN AREA ADJACENT TO THE MERAMEC RIVER WHICH HAS RANDOM BUT SIGNIFICANT FLOODING. THIS FLOODING IS AN IMPEDIMENT TO THE COMMERCIAL/INDUSTRIAL DEVELOPMENT OF THE AREA WHICH IS A SUBURB OF ST. LOUIS AND IS STRATEGICALLY LOCATED NEAR INTERSTATE HIGHWAY 44 AND MISSOURI STATE ROAD 141. CONTINUED DEVELOPMENT OF THE AREA WILL PROVIDE A VASTLY INCREASED TAX BASE FOR THE ENTIRE AREA AND ALL RESIDENTS OF THE ENTIRE COMMUNITY WILL REALIZE GREAT BENEFITS FROM THE PROGRAM.

YOUR SUPPORT IS NEEDED AND ALL VOTERS IN THE AREA WILL REMEMBER YOUR SUPPORT FOR THE VALLEY PARK PROJECT AT THE TIME OF YOUR NEXT ELECTION.

STATEMENT OF ROBERT E. HALAMICEK, VALLEY PARK, MO

I would appreciate your help and assistance in funding a much needed flood levee for the community of Valley Park, Missouri.

I have been in the ready mix concrete business in the Valley Park since 1965. The flood of December 1982 came very close to putting me out of business. My company suffered losses in excess of $450.000.00 that were directly caused by the flood. The cost of which I am still paying for today with two S.B.A. loans. A small business like ours would probably not survive another disaster of this magnitude.

Your support in 1990 of our community's efforts to aquire funding for a flood levee in Valley Park, Missouri would be appreciated. I would like to thank you in advance for your assistance in this matter.

STATEMENT OF LAWRENCE FITZGIBBON, VALLEY PARK, MO

I have a keen interest in the Valley Park Flood Levee Project and feel it is vitally important for the residents and business owners in this area.

As the owner of a business located in Valley Park for the past ten years, I urge you to support the Flood Levee Project in the 1991 budget.

STATEMENT OF CAROL PRICE, VALLEY PARK, MO

Please give us your support in getting the flood leve project into the 1991 budget.

I am a new small business located on Vance Road in Valley Park and this is one of our gibbest concerns.

Of course, it's impossible to get flood insurance in this area and our equipment is not the most portable in the world. So moving our assets out quickly would be close to impossible.

We feel Valley Park is an up and coming area and look forward to many successful years in this same location. With your support, I know we can do it.

STATEMENT OF DOROTHY HEDRICK, VALLEY PARK, MO

I URGE YOU TO USE YOUR BEST EFFORT TO INCLUDE THE FUNDS FOR THE BUILDING OF THE VALLEY PARK, MISSOURI LEVEE INTO THE 1991 BUDGET.

I BELIEVE IT WOULD HAVE SUBSTANTIAL ECONOMIC VALUE TO THE COMMUNITY.

STATEMENT OF LARRY DEGENHERT, VALLEY PARK, MO

We need your help in passing the flood levee proposal before Congress for the City of Valley Park, MO.

Should there be a flood in Valley Park, it would hurt our business tremendously. We have eleven employees who would be out of work. It would put us far behind with our customers. Our business consists of customers calling in orders, our staff processing those orders and then shipping them daily.

Not only are we concerned about our employees, we are concerned about the thousands of dollars we have of inventory, office equipment and furniture. Which would all be ruined should there be a flood. If our inventory would be damaged or destroyed, it would set us back a couple of months. We would have to replace it, which is very time consuming.

We would appreciate your support on passing the proposed levee in Valley Park, Mo. Thank you for your time and consideration.

STATEMENT OF MYRTLE N. KAIGHIN, MANCHESTER, MO

I am not a resident of Valley Park but I am a member of Meramec Valley Baptist Church in Valley Park. Our church sustained extensive damage during the 1982 flood. I therefore strongly support the proposed levee project. I urge you to do all you can to have the flood levee project included in the budget for congressional consideration. Thank you for your time.

KODIAK HARBOR, AK

STATEMENT OF JACK McFARLAND, ASSEMBLY MEMBER, KODIAK ISLAND BOROUGH

ACCOMPANIED BY:

LOU IANI, MEMBER OF KODIAK CITY COUNCIL
SONNY CHICHENOFF, COMMERCIAL FISHERMAN
CORKY MCCORKLE, HARBORMASTER, PORT OF KODIAK

Senator DOMENICI. City of Kodiak, Mr. Jack McFarland.

Mr. McFARLAND. Yes. Mr. Chairman and members of the Senate Energy and Water Appropriations Subcommittee, my name is Jack McFarland. I am an elected assembly member of the Kodiak Island Borough. With me today is Mr. Lou Iani, an elected member of the Kodiak City Council, Sonny Chichenoff, a commercial fisherman, and Corky McCorkle, our Port of Kodiak harbormaster

With the exception of Corky, we are all commercial fishermen. We are here today as commercial fishermen to request your assistance to provide funding for the Saint Herman Harbor breakwater in Kodiak, AK. Estimated cost $18,806,000.

The breakwater will protect the domestic fishing fleet made up of Alaska, Washington, and Oregon vessels; create 45 acres of calm water; and double the capacity of our present facility. Your favorable consideration of this request will benefit not only Kodiak, but will also allow the Gulf of Alaska fishing fleet to fully utilize an important national renewable resource.

Kodiak is located 260 air miles southwest of Anchorage, AK. The Port of Kodiak is one of the most productive fishing ports in the United States. We were ranked as the No. 1 commercial fishing port in 1988 and have been among the top four ports over the last 10 years. Fish landings exceeded $166 million in 1988, greater than the total commercial total landings of 23 other coastal States.

The Port of Kodiak is strategically centered in the Gulf of Alaska. Although 2,200 vessels are registered with the city, there are only 600 rentable stalls at the two existing small boat harbors in Kodiak, Saint Paul Harbor, and Saint Herman Harbor. Saint Paul Harbor is the original facility, and the vessels berthed there are protected by an existing rubble mound breakwater.

The need for an additional boat harbor began in 1961 when it became clear that overcrowded conditions were making it difficult to service the fishing fleet. The best location for this boat harbor was Dog Bay, also known as Saint Herman Harbor. A permanent breakwater is needed to protect against violent wind and wave damage.

Unfortunately, it is no simple matter to get a breakwater built. We were lucky to expand our harbor facilities in Saint Herman without a permanent breakwater. A floating breakwater was installed and 374 additional slips were added. Saint Herman Harbor is protected only by this floating breakwater.

Violent storms, wind, and wave action continually pound fishing floats moored in the Saint Herman harbor damaging both inner harbor facilities and vessels. Vessel maintenance costs are, in fact, 50 to 60 percent higher when berthed in the Saint Herman Harbor than vessels berthed in Saint Paul Harbor.

Our lack of a breakwater creates unnecessary restraints on our ability to economically and safely operate as a fishing port. A large portion of the fleet is forced to travel long distances to find off-season storage and berthing facilities.

In 1982, Kodiak was informed that it would require an authorization from Congress before it would be eligible for the Army Corps of Engineers construction program. It took 4 years for the city to receive the authorization as part of the Water Resources Development Act of 1986.

Kodiak for the last 3 years has been engaged in extensive positive discussion with the Army Corps over the design of the breakwater. The final design documents should be complete this summer in plenty of time to meet a 1991 construction date. The configuration of this permanent rubble mound breakwater will allow improved water circulation within the harbor and additional mooring spaces for 450 fishing vessels. The Army Corps, Alaska region, gave the Kodiak project its highest priority.

The estimated total project cost is $18.8 million. Kodiak has already set aside an amount of $2 million as our initial contribution to construction with an additional buyback of 10 percent of the total project cost over a 30-year period. Harbor development and maintenance is the No. 1 priority for Kodiak. We have dedicated 1 percent of our annual municipal revenues for harbor development in order to meet our obligation to the Army Corps of Engineers and to continue our efforts to improve port facilities for all our citizens and fishermen.

Both resident and nonresident fishermen depend on Kodiak as a base for operation. A permanent breakwater for the Saint Herman Harbor will relieve the overcrowded conditions, prevent further property damage, increase personal safety, and provide a safe haven from Alaska's fierce winds.

We strongly urge the subcommittee to appropriate the necessary funding to begin construction of the breakwater in 1991. We genuinely appreciate your taking this time to review this most important project to our fishing industry. We are most willing to answer any questions or clarify any of the information that we have offered to date. Thank you, very much.

Senator DOMENICI. Mr. McFarland, did either of the gentlemen accompanying you have written statements?

Mr. MCFARLAND. No, Mr. Chairman; they are here strictly to answer any questions that you may have.

Senator DOMENICI. We very much appreciate your appearance. We know how difficult it is for you to come from long distances. You will have strong advocacy on this committee from your Senators, obviously, and in particular, the one who is a member of the Appropriation Committee.

Our problem, so you will know what it is going in, is that the President has no new projects in his budget. That is not a new approach. We have been on an off-and-on policy of no new starts for quite sometime.

The committee does not necessarily like that policy, but certainly, you make a very good case for a new start, and we will just have to await the deliberations of subcommittee after we have a firm grasp of how much money we are allocated under the process of the Appropriations Committee. We thank you for your testimony. It will be made a part of the record and we appreciate your coming.

Mr. McFARLAND. Thank you; we very much appreciate it.

Senator DOMENICI. Thank you.

Let us move to the New Jersey Commerce Energy and Economic Development. We understand Ken LeFevre is not here but rather Joseph Grossi.

Do you have others with you, Mr. Grossi?

NEW YORK, NEW JERSEY, PENNSYLVANIA, AND DELAWARE AREA PROJECTS

STATEMENT OF JOSEPH T. GROSSI, EXECUTIVE DIRECTOR, NEW JERSEY DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT'S MARITIME ADVISORY COUNCIL

Mr. GROSSI. I generally present the testimony for the State of New Jersey and then appear with the New York and New Jersey port authorities and then also with the Delaware River ports and support their testimony.

Senator DOMENICI. Before you start, let us go with the Port Authority of New York-New Jersey. I understand it is Lillian Liburdi, and if you have others with you, they might come right now.

Mrs. LIBURDI. Mr. Chairman, I have Patricia Zedalis, who is the deputy commissioner of ports and trade of the city of New York.

Senator DOMENICI. All right; let us proceed. You are aware of our time constraints?

Mrs. LIBURDI. Yes, sir.

Senator DOMENICI. But you have some very important issues. Why do not you proceed first, Mr. Grossi?

Mr. GROSSI. Yes, sir. Mr. Chairman and members of the committee, it is a pleasure to appear before you today on an appropriation of great importance to New Jersey and our residents. I am here today in Washington to voice support for that which is presently included in the President's budget; however, the Maritime Advisory Council feels that additional funding for 14 projects is also warranted. These projects affect not only New Jersey but our neighbors in Delaware, Pennsylvania, and New York. Our requests total an additional $16,065,000.

What I would like to do at this time, Mr. Chairman, is submit the testimony that I have on behalf of the State of New Jersey which includes navigation, flood control, shore protection, shore damage reduction, beach erosion, and planning assistance moneys for the record and just highlight a couple of projects that will not be covered in the New York Port Authority's testimony, and then we will cover Mrs. Liburdi's testimony. I think I will wait on the Delaware River projects.

[The statement follows:]

STATEMENT OF JOSEPH T. GROSSI

THE NEW JERSEY DEPARTMENT OF COMMERCE AND
ECONOMIC DEVELOPMENT
MARITIME ADVISORY COUNCIL OF NEW JERSEY

REPRESENTING ALSO:

DELAWARE RIVER AND BAY AUTHORITY (DE, NJ, PA)
DELAWARE RIVER PORT AUTHORITY (NJ, PA)
INTERNATIONAL UNION OF OPERATING ENGINEERS
JOINT EXECUTIVE COMMITTEE FOR THE IMPROVEMENT OF THE DELAWARE (PA)
MARITIME ASSOCIATION OF THE PORT OF NEW YORK/NEW JERSEY
MARINE TRADES ASSOCIATION OF NEW JERSEY
NATIONAL DREDGING ASSOCIATION, NEW JERSEY CHAPTER (NJ)
NEW JERSEY ALLIANCE FOR ACTION
NEW JERSEY MARINE SCIENCES CONSORTIUM
NEW JERSEY STATE CHAMBER OF COMMERCE
NEW YORK-NEW JERSEY PORT PROMOTION ASSOCIATION
PENJERDEL (PA, NJ, DE) COUNCIL
PHILADELPHIA MARITIME EXCHANGE (PA)
PILOTS ASSOCIATION FOR THE BAY AND RIVER DELAWARE
PORT AUTHORITY OF NEW YORK & NEW JERSEY
PROJECT T.R.A.D.E. (TAKE A RESPONSIBLE APPROACH TO DREDGING AND THE ENVIRONMENT) (NJ)
P.R.O.T.E.C.T. (PASSAIC RIVER ORGANIZATIONS TO ENCOURAGE CONSTRUCTION OF THE TUNNEL) COMMITTEE (NJ)
SAVE OUR PORT COALITION (NY, NJ)
SOUTH JERSEY PORT CORPORATION (NJ)
TOWBOAT & HARBOR CARRIERS ASSOCIATION OF NEW YORK/NEW JERSEY
UNITED NEW JERSEY SANDY HOOK PILOTS BENEVOLENT ASSOCIATION
UNITED NEW YORK SANDY HOOK PILOTS BENEVOLENT ASSOCIATION

Mr. Chairman and members of the Committee, it is a pleasure to appear before you today on appropriations of great importance to New Jersey and our residents.

I am Joseph T. Grossi, Executive Director of the New Jersey Department of Commerce and Economic Development's Maritime Advisory Council.

I am here today in Washington to voice support for that which is presently included in the President's Budget, however, the Council feels that additional funding for 14 projects is also warranted. These projects effect not only New Jersey but our neighbors in Delaware, Pennsylvania and New York. Our requests total an additional $16,065,000. (A summary of our recommendations appears on the following two pages.)

NAVIGATION

Americans throughout the country receive products shipped through New Jersey's ports. Port Elizabeth and Port Newark, which utilize the Kill Van Kull and Newark Bay Channels, are the largest container ports of their kind in the world. With the deepening of the channels from 35 feet to 40 feet more than half complete, we appreciate the FY'91 Budget Request of $31 million for this project.

Our many other ports along the Atlantic Coast and Delaware River and Bay also serve vital functions of commerce. We are here to solicit your help in making them both safer and more useful for those who depend on them for their livelihood. While the Budget recommendations of $290,000 for the Delaware River Comprehensive Navigation Study and $3,280,000 for the Delaware River Philadelphia to Trenton projects is adequate, the $11,410,000 in the Budget Request for the Delaware River Philadelphia to the Sea project represents an approximate $2,000,000 reduction from the FY'90 appropriation, with no allowance made for increasing maintenance costs. We wish to urge that $2,625,000 be added as additional capability so that project channel depths can be adequately maintained. Also, the FY'91 Budget Request does not provide PE&D funds for the proposed 45 foot channel in the Delaware River Philadelphia to the Sea project. This proposed main channel deepening has a positive benefit-to-cost ratio which will accrue on over 50 million tons of bulk cargo which is carried on the Delaware River annually. The Delaware River Port Authority has identified themselves as the sponsor for cost-sharing and we request an add-on of $1 million to advance the PE&D phase of a 45 foot deep channel in the Delaware River Philadelphia to the Sea project.

Another important improvement is the Delaware River Vicinity of Camden (Beckett Street) project. The PE&D phase for this navigation improvement will be completed with funds appropriated in FY'90. The present 37 foot project depth was the result of one of the earliest cost-sharing projects in this nation. However, that depth is not adequate to utilize the existing 40 foot Delaware River Main Channel. We, therefore, wish to request that $3,290,000 of construction funds be added to advance and complete this project in FY'91.

The New York Harbor Collection and Removal of Drift Project, NY & NJ is aimed at the removal of approximately 2,230 sunken hulks and 149 decaying shore structures. The Corps of Engineers has estimated that nearly 18,000 commercial, public and recreation vessels collide annually with drift in our port, causing repair costs and economic losses of more than $53 million. We have been advised that the economics of the Drift Project are to be re-evaluated to satisfy new policy criteria. This has delayed the cleanup project for the last six months. We believe that this is an unnecessary decision that wastes precious dollars and could seriously delay the completion of the construction. Therefore, we request that $2 million be appropriated for the Drift Project in FY'91.

The New York Harbor and Adjacent Channels, Claremont Channel is presently at an average depth of 27 feet mean low water, located in Jersey City just north of the Port Jersey Channel. While authorized to 42 feet, the modified project will provide adequate shipping economies with a 34 foot channel. The major users of the channel are two scrap metal exporting companies and a crushed stone aggregate terminal. Combined, these three firms employ 300 persons directly and nearly 3,000 indirectly through suppliers, truckers and longshoremen. No funds are contained in the FY'91 Budget recommendations for the Corps of Engineers to initiate the PE&D phase of this project. Thus, we request that $500,000 be appropriated in FY'91 for improvements to the Claremont Channel.

The New York Harbor and Adjacent Channels, Port Jersey Channel in Bayonne, NJ presently serves 13 shipping lines at the Global Marine Container Terminal. In 1989, this facility handled 296 vessel arrivals with over 250,000 twenty-foot unit containers. More than 400 terminal employees and another 110 contract workers, depend on this facility for their livelihood. As a privately owner terminal, Global pays more than $1.2 million in local real estate taxes annually. This channel also provides access for the U.S. Army Military Ocean Terminal and the newly constructed Port Authority Auto Marine Terminal. While no funds are contained in the proposed Federal Fiscal Year 1991 Budget for this project, money appropriated in FY'90 is scheduled to complete the PE&D phase by late FY'91. As a new construction start is expected shortly thereafter, Local Interests anticipate future appropriations and are actively involved in identifying a funding source for the non-federal share of this project.

Within the Red Hook Flats Anchorage, NY, there exist three anchorage areas. Located in the Lower and Upper New York Bays, these anchorages accommodate ocean-going general cargo ships and tankers. The anchorages were designed in the early 1960's for a vessel with a draft of 30 feet. Today's modern ships are almost 1,000 feet long with drafts of 40 feet. If our bi-state port is to remain productive, it must modernize to accommodate today's vessels. We urgently request that $250,000 be made available in FY'91 for a reconnaissance study for the deepening of the Red Hook Flats.

FLOOD CONTROL

Flooding is a particularly serious problem in New Jersey, and it is most acute in the Passaic River Basin of northern New Jersey, an area which encompasses 935 square miles. We have made substantial progress in the planning studies of the Passaic River Main Stem, NJ & NY project and would like to express our appreciation for the FY'91 Budget Request of $5 million for this improvement. However, this does not reflect the full capability necessary to progress the PE&D phase for implementation of urgent flood control protection. We, therefore, wish to request an additional appropriation of $2,500,000 in FY'91 for this project.

Two flood control projects in need of attention but not listed in the FY'91 Budget Recommendation are Pine Brook, Manalapan Township, NJ and Ramapo and Mahwah Rivers, NJ & NY. The Pine Brook, Manalapan Township, NJ project is a PE&D effort. Funding for this project can now be used to initiate this study. We wish to request that $200,000 be appropriated for this project, which the State of New Jersey is now prepared to cost-share.

The Ramapo and Mahwah Rivers, NJ & NY flood control project is in need of redesign funding. We wish to request an FY'91 appropriation of $300,000 for the PE&D phase for which New York and New Jersey have each indicated an intent to comply with the items of local cooperation.

Located in north central New Jersey, the Raritan River Basin, Greenbrook Sub-Basin, NJ project drains approximately 65 square miles. In 1971, Hurricane Doria caused more than $22 million in damage, while another major storm in 1973 contributed to six death, residential evacuation, and over $25 million in damages. In order to advance this project to its scheduled completion date, we wish to express our support for the FY'91 Budget Request of $2,000,000 and request an additional appropriation of $1,000,000 to be used to accelerate this project to construction in three years.

SHORE PROTECTION

The Atlantic Coast areas of New Jersey from Sandy Hook to Cape May Point have experienced a marked increase in pollution events which contributed to significant business losses. Serious erosion has also occurred along the study area. No funds are contained in the Fiscal Year 1991 Budget Request to initiate the feasibility study phase of the New Jersey Shore Protection Study project. Therefore, we wish to request that $1 million be appropriated in FY'91 to advance this project which is strongly supported by the State of New Jersey.

Erosion from storm damage at Sandy Hook to Barnegat Inlet, NJ has exposed coastal communities to the increased potential for damage. The FY'91 Budget amount of $29 million is appreciated and needed to continue the construction contract phase of this project.

STORM DAMAGE REDUCTION

The Raritan Bay and Sandy Hook Bay, NJ storm damage protection study will prove beneficial to coastal Bayshore communities not presently protected from storm damage. Therefore, we wish to request a Fiscal Year 1991 Budget appropriation of $500,000 which will be used to initiate a pre-authorization reconnaissance study.

Section 934 of the Water Resources Development Act of 1986 grants the authority to study completed Beach Nourishment projects for a period of up to 50 years to determine if additional improvements are required. We wish to request that an FY'91 Budget appropriation of $600,000 be approved to allow the Corps of Engineers to revisit the Raritan Bay and Sandy Hook Bay, NJ, Section 934 study.

PLANNING ASSISTANCE

Finally, New Jersey wishes to continue its annual request for planning assistance funding to perform engineering evaluations of water resource problems. Funds requested for proposed studies total $300,000 and we appreciate the funding provided in past years.

Mr. Chairman, I appreciate your past support, and ask you to carefully consider the requests made for additional monies in FY'91. These requests have been made with a special eye toward the most efficient use of both federal and State funds.

In closing, I wish to thank you for the opportunity to appear before this Subcommittee.

SUMMARY OF NEW JERSEY CIVIL WORKS APPROPRIATIONS FISCAL YEAR 1991

PROJECT	FY'91 BUDGET RECOMMENDATION	LOCAL INTEREST RECOMMENDATION	DIFFERENCE
NAVIGATION			
ARTHUR KILL EXTENSION TO CARTERET, NJ & NY (STUDY)	-0-	-0-	-0-
BARNEGAT INLET, NJ (CONSTRUCTION)	5,537,000	5,537,000	-0-
BARNEGAT INLET, NJ (O&M)	850,000	850,000	-0-
CHEESEQUAKE CREEK, NJ (O&M)	50,000	50,000	-0-
COLD SPRING INLET, NJ (O&M)	385,000	385,000	-0-
DELAWARE RIVER COMPREHENSIVE NAVIGATION STUDY (STUDY)	290,000	290,000	-0-
DELAWARE RIVER, PHILADELPHIA TO THE SEA, PA, NJ & DE (PE&D)	-0-	1,000,000	1,000,000
DELAWARE RIVER, VICINITY OF CAMDEN, NJ (CONSTRUCTION)	-0-	3,290,000	3,290,000
DELAWARE RIVER, PHILADELPHIA TO TRENTON, NJ (O&M)	3,280,000	3,280,000	-0-
DELAWARE RIVER, PHILADELPHIA TO THE SEA, NJ, PA & DE (O&M)	11,410,000	14,035,000	2,625,000
KILL VAN KULL AND NEWARK BAY CHANNELS, NY & NJ (CONSTRUCTION)	31,000,000	31,000,000	-0-
MANASQUAN RIVER, NJ (O&M)	190,000	190,000	-0-
NJ INTRACOASTAL WATERWAY, NJ (O&M)	2,529,000	2,529,000	-0-
NEWARK BAY, HACKENSACK & PASSAIC RIVERS, NJ (O&M)	50,000	50,000	-0-
NY HARBOR AND ADJACENT CHANNELS, CLAREMONT CHANNEL, NJ (PE&D)	-0-	500,000	500,000
NY HARBOR AND ADJACENT CHANNELS, PORT JERSEY CHANNEL, NJ (PE&D)	-0-	-0-	-0-
NY HARBOR COLLECTION AND REMOVAL OF DRIFT, NY & NJ (CONSTRUCTION)	-0-	2,000,000	2,000,000
NEW YORK & NEW JERSEY CHANNELS, NY (O&M)	2,705,000	2,705,000	-0-
RARITAN RIVER, NJ (O&M)	600,000	600,000	-0-
RARITAN RIVER TO ARTHUR KILL CUT-OFF, NJ (O&M)	1,050,000	1,050,000	-0-
RED HOOK FLATS ANCHORAGE, NY & NJ (STUDY)	-0-	250,000	250,000
SALEM RIVER, NJ (PE&D)	150,000	150,000	-0-
SANDY HOOK BAY, NJ (O&M)	30,000	30,000	-0-
SANDY HOOK BAY AT LEONARDO, NJ (O&M)	880,000	880,000	-0-
SHARK RIVER, NJ (O&M)	40,000	40,000	-0-
SUBTOTAL	$61,026,000	$70,691,000	$9,665,000

PROJECT	FY'91 BUDGET RECOMMENDATION	LOCAL INTEREST RECOMMENDATION	DIFFERENCE
FLOOD CONTROL			
FRANCIS E. WALTER DAM, PA (O&M)	445,000	445,000	-0-
GREAT EGG HARBOR INLET & PECK BEACH, NJ (CONSTRUCTION)	3,250,000	3,250,000	-0-
LOWER SADDLE RIVER, NJ (PE&D)	590,000	590,000	-0-
MOLLY ANN'S BROOK, NJ (PE&D)	420,000	420,000	-0-
PASSAIC RIVER MAIN STEM, NJ & NY (PE&D)	5,000,000	7,500,000	2,500,000
PINE BROOK AT MANALAPAN TOWNSHIP, NJ (PE&D)	-0-	200,000	200,000
PROMPTON LAKE, PA (O&M)	379,000	379,000	-0-
RAMAPO RIVER AT OAKLAND, NJ (PE&D)	250,000	250,000	-0-
RAMAPO AND MAHWAH RIVERS, MAHWAH, NJ & SUFFERN, NY (PE&D)	-0-	300,000	300,000
RARITAN RIVER BASIN, GREENBROOK SUB-BASIN, NJ (PE&D)	2,000,000	3,000,000	1,000,000
SUBTOTAL	$12,334,000	$16,334,000	$4,000,000
SHORE PROTECTION			
DELAWARE BAY COASTLINE, DE & NJ (STUDY)	355,000	355,000	-0-
NEW JERSEY SHORE PROTECTION, NJ (STUDY)	-0-	1,000,000	1,000,000
SUBTOTAL	$355,000	$1,355,000	$1,000,000
BEACH EROSION			
CAPE MAY INLET TO LOWER TOWNSHIP, NJ (CONSTRUCTION)	3,200,000	3,200,000	-0-
SANDY HOOK TO BARNEGAT INLET, NJ (CONSTRUCTION)	29,000,000	29,000,000	-0-
SUBTOTAL	$32,200,000	$32,200,000	$ -0-
STORM DAMAGE REDUCTION			
RARITAN BAY & SANDY HOOK BAY, NJ (STUDY)	-0-	500,000	500,000
RARITAN BAY & SANDY HOOK BAY, NJ, SECTION 934 (STUDY)	-0-	600,000	600,000
SUBTOTAL	$ -0-	$1,100,000	$1,100,000
PLANNING ASSISTANCE			
SECTION 22, P.L. 93-251 (STUDY)	-0-	300,000	300,000
SUBTOTAL	$ -0-	$300,000	$300,000
TOTAL	$105,915,000	$121,980,000	$16,065,000

NEW JERSEY STATE FY 1991 CIVIL WORKS APPROPRIATIONS

MARITIME ADVISORY COUNCIL OF NEW JERSEY
New Jersey Department of Commerce, Energy & Economic Development

CN 823, Trenton, New Jersey 08625
609-292-0700

John L. Buzzi, Ph.D., P.E., Chairman
Joseph T. Grossi, Executive Director

March 1990

Dear Members of the United States Congress:

New Jersey, a maritime state, relies heavily on waterfront and coastal commerce to maintain its healthy economy. New Jersey's waterways yield more than a quarter billion tons of cargo a year, producing more than a billion dollars in customs revenue for the federal government.

In addition to our ports, our inland waterways and rivers are equally important for our commerce and recreation. However, one of the results of our growth is the increasing problem of flooding. Adequate water supply is another issue that we must also face.

The New Jersey Civil Works Appropriations Request for Fiscal Year 1991 addresses these issues. The Maritime Advisory Council of New Jersey supports these important projects and has given careful review to capital improvements in navigation, flood control, shore protection and water supply efforts.

We ask that you carefully consider our requests for additional funding in FY'91. New Jersey is moving ahead in new partnership responsibilities with the federal government as outlined in the Water Resources Development Act of 1986. This summary will hopefully provide both the House and Senate Appropriations Committees with a clearer understanding about our state's unique needs.

Sincerely

JOHN L. BUZZI

John L. Buzzi, Ph.D., P.E.
Chairman
Maritime Advisory Council
of New Jersey

CIVIL WORKS APPROPRIATIONS
FISCAL YEAR 1991

PROJECT	LOCAL INTEREST RECOMMENDATION
NAVIGATION	
ARTHUR KILL EXTENSION TO CARTERET, NJ & NY	-0-
BARNEGAT INLET, NJ	5,537,000
BARNEGAT INLET, NJ	850,000
CHEESEQUAKE CREEK, NJ	50,000
COLD SPRING INLET, NJ	385,000
DELAWARE RIVER COMPREHENSIVE NAVIGATION STUDY, NJ, PA & DE	290,000
DELAWARE RIVER, PHILADELPHIA TO THE SEA, PA, NJ & DE	1,000,000
DELAWARE RIVER, VICINITY OF CAMDEN, NJ	3,290,000
DELAWARE RIVER, PHILADELPHIA, PA TO TRENTON, NJ	3,280,000
DELAWARE RIVER, PHILADELPHIA TO THE SEA, NJ, PA & DE	14,035,000
KILL VAN KULL AND NEWARK BAY CHANNELS, NY & NJ	31,000,000
MANASQUAN RIVER, NJ	190,000
NJ INTRACOASTAL WATERWAY, NJ	2,529,000
NEWARK BAY, HACKENSACK & PASSAIC RIVERS, NJ	50,000
NY HARBOR AND ADJACENT CHANNELS CLAREMONT CHANNEL, NJ	500,000
NY HARBOR AND ADJACENT CHANNELS, PORT JERSEY CHANNEL, NJ	-0-
NY HARBOR COLLECTION AND REMOVAL OF DRIFT, NY & NJ	2,000,000
NEW YORK & NEW JERSEY CHANNELS, NY	2,705,000
RARITAN RIVER, NJ	600,000
RARITAN RIVER TO ARTHUR KILL CUT-OFF, NJ	1,050,000
RED HOOK FLATS ANCHORAGE, NY & NJ	250,000
SALEM RIVER, NJ	150,000
SANDY HOOK BAY, NJ	30,000
SANDY HOOK BAY AT LEONARDO, NJ	880,000
SHARK RIVER, NJ	40,000

CIVIL WORKS APPROPRIATIONS FISCAL YEAR 1991 (CONTINUED)

PROJECT	LOCAL INTEREST RECOMMENDATION
FLOOD CONTROL	
FRANCIS E. WALTER DAM, PA	445,000
GREAT EGG HARBOR INLET & PECK BEACH, NJ	3,250,000
LOWER SADDLE RIVER, NJ	590,000
MOLLY ANN'S BROOK, NJ	420,000
PASSAIC RIVER MAIN STEM, NJ	7,500,000
PINE BROOK AT MANALAPAN TOWNSHIP, NJ	200,000
PROMPTON LAKE, PA	379,000
RAMAPO RIVER AT OAKLAND, NJ	250,000
RAMAPO AND MAHWAH RIVERS, NJ & NY	300,000
RARITAN RIVER BASIN, GREENBROOK SUB-BASIN, NJ	3,000,000
SHORE PROTECTION	
DELAWARE BAY COASTLINE, DE & NJ	355,000
NEW JERSEY SHORE PROTECTION, NJ	1,000,000
BEACH EROSION	
CAPE MAY INLET TO LOWER TOWNSHIP, NJ	3,200,000
SANDY HOOK TO BARNEGAT INLET, NJ	29,000,000
STORM DAMAGE REDUCTION	
RARITAN BAY AND SANDY HOOK BAY, NJ	500,000
RARITAN BAY AND SANDY HOOK BAY, NJ, SECTION 934	600,000
PLANNING ASSISTANCE	
SECTION 22, P.L. 93-251	300,000

NAVIGATION

ARTHUR KILL CHANNEL EXTENSION TO CARTERET
NEW JERSEY AND NEW YORK
(STUDY)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$ -0-

Project Description

This study will focus on the portion of the Arthur Kill from Howland Hook, New York south to Carteret, New Jersey. The 35 ft. deep existing federal project does not allow the full loading of liquid and dry bulk cargo ships destined for shoreside facilities. This situation requires that large ocean-going vessels either light load (not fully utilizing ship capacity at a substantial loss of economy), or perform expensive off-shore lightering operations in deeper waters outside this channel. Deeper channels would streamline operations and realize considerable transportation cost savings.

Six deep-draft bulk facilities along the Arthur Kill extension annually handle in excess of 15 million tons of cargo. Petroleum, petrochemicals, speciality chemicals, sulphur and cement are carried to these terminals. Large modern vessels would immediately benefit from substantial savings and safer navigation if the existing channel were deeper.

Local Interest Recommendation

Although we were pleased to see this project funded in FY'89, it was our belief that the project would have been designated a "post authorization, non-cost shared, General Design Memorandum" effort and not a "cost-shared feasibility study." While we wish to support this project, this approach appears to counter the congressional intent of the Water Resources Development Act of 1986, which directly authorizes this project for construction.

A comparison of this shorter and narrower project with the preceding Howland Hook construction increment leaves no doubt that this project is justified. The already heavily industrialized Arthur Kill Extension handles more tonnage than the preceding reach. Therefore, it is obvious that the Arthur Kill Extension benefit-to-cost ratio must be at least equal to, or greater than, the 4 to 1 ratio of the preceding reach.

While a cost-sharing mechanism is not yet in place for this project, we request that it remain open as we continue to work in cooperation with the project beneficiaries toward implementing a program to fulfill the local share.

BARNEGAT INLET, NEW JERSEY
(CONSTRUCTION)

FY'91 Budget Request	$5,537,000
Local Interest Recommendation	$5,537,000

Project Description

Channel shoaling, wave activity and numerous marine hazards have created dangerous navigational problems at the Barnegat Inlet in Ocean

County, New Jersey. These are serious shortcomings that impose limitations on the effectiveness of safe access through an inlet with over 800,000 annual transits.

Since completion of the existing federal project in 1940, approximately $8 million has been appropriated in an attempt to stabilize conditions. This has resulted in only short-term maintenance improvements. Continuation of construction is necessary to modify the existing federal navigation project, realign the south jetty and provide a wider and deeper navigation channel.

Presently, the only approach to the inlet is from the north along the area of Island Beach. Due to shoaling, breakers occur across the entire outer bar, exposing all vessels to possible impact by severe waves as they enter the inlet entrance. Vessels are also in constant jeopardy of being capsized or pushed across the north jetty because of the current navigating conditions.

Local Interest Recommendation

The modification and construction of a new jetty and improved navigation channel are necessary to correct channel shoaling, wave activity and dangerous hazards which have been responsible for the loss of 11 lives at the inlet over the last six-year period.

The improvement underway will reduce navigation hazards and provide all mariners with safe access through the inlet. As designed, the project will reduce shoaling and maintenance dredging costs over the long term. This project represents a sound, cost-effective investment for safer marine navigation in the area.

We support the Fiscal Year 1991 Budget Request of $5,537,000 to continue the construction work of this project. The State of New Jersey has in escrow the necessary funds to cost-share this anticipated appropriation.

BARNEGAT INLET, NEW JERSEY
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$850,000
Local Interest Recommendation	$850,000

Project Description

Channel shoaling, wave activity and numerous marine hazards have created dangerous navigational problems at the Barnegat Inlet in Ocean County, New Jersey. These are serious shortcomings that impose limitations on the effectiveness of safe access through an inlet with over 800,000 annual transits.

Since completion of the existing federal project in 1940, approximately $8 million has been appropriated in an attempt to stabilize conditions. This has resulted in only short-term maintenance improvements. Due to shoaling, breakers occur across the entire outer bar, exposing all vessels to possible impact by sever waves as they enter the inlet entrance.

Local Interest Recommendation

We are pleased to see this project included in this year's Budget Request and wish to express our support for the Fiscal Year 1991 appropriation of $850,000 for the much needed maintenance work on this project. The State of New Jersey has in escrow the necessary funds to cost-share this improvement.

CHEESEQUAKE CREEK, NEW JERSEY
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$50,000
Local Interest Recommendation	$50,000

Project Description

This project includes 3 channels with varying depths from 3 ft. to 5 ft., two parallel stone jetties and pile dikes to protect the channel.

The project is about 45% complete. The last work done in carrying out the project was in 1884. Maintenance dredging has been done several times since then. The unfinished parts of the project are dredging a channel 4 ft. deep and 50 to 100 ft. wide between the railroad bridge and the head of navigation, including the construction of three dikes and dredging in Stump Creek.

Local Interest Recommendation

We are pleased to see this project included in this year's Budget Request and wish to express our support for a Fiscal Year 1991 appropriation of $50,000 for the maintenance of this small, but nevertheless important, commercial fishing channel.

COLD SPRING INLET, NEW JERSEY
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$385,000
Local Interest Recommendation	$385,000

Project Description

This existing channel project, adopted in 1907 and modified in 1945, provides for an entrance channel 25 ft. deep and 400 ft. wide, protected by two parallel stone jetties. The total length of the section included in the project is about 2 1/4 miles.

Local Interest Recommendation

We are pleased to see this project included in this year's Budget Request and wish to express our support for a Fiscal Year 1991 appropriation of $385,000 for the continued Operation & Maintenance of this inlet channel project.

DELAWARE RIVER COMPREHENSIVE NAVIGATION STUDY
NEW JERSEY, PENNSYLVANIA, AND DELAWARE
(STUDY)

FY'91 Budget Request	$ 290,000
Local Interest Recommendation	$ 290,000

Project Description

The Delaware River Navigation System includes six deep-draft navigation projects serving the Ports of Philadelphia, Pennsylvania;

Camden, New Jersey; Trenton, New Jersey; and Wilmington, Delaware. These ports collectively transport more tan 114 million tons of cargo annually, support nearly 100,000 jobs, and provide a much needed economic stimulus to the entire region. This system also serves naval vessels at the Philadelphia Naval Base.

The representatives of port facilities utilizing the Delaware River cite the need for a 45 ft. deep channel and improved navigation movements. An average of 9 million tons of cargo are lightered into barges due to the restrictive 40 ft. channel depths.

Local Interest Recommendation

We wish to support the FY'91 Budget Request of $290,000 which will provide the funds needed to complete the Big Stone Anchorage study phase of this project.

DELAWARE RIVER - PHILADELPHIA TO THE SEA, NEW JERSEY, PENNSYLVANIA AND DELAWARE
(PRECONSTRUCTION ENGINEERING & DESIGN)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$1,000,000

Project Description

The Delaware River Navigation System includes six deep-draft navigation projects serving the Ports of Philadelphia, Pennsylvania; Camden, New Jersey; Trenton, New Jersey; and Wilmington, Delaware. These ports collectively transport more than 114 million tons of cargo annually, support nearly 100,000 jobs, and provide a much needed economic stimulus to the entire region. This system also serves naval vessels at the Philadelphia Naval Base.

The representatives of port facilities utilizing the Delaware River cite the need for a 45 ft. deep channel and improved navigation movements. An average of 9 million tons of cargo are lightered into barges due to the restrictive 40 ft. channel depths.

Local Interest Recommendation

We wish to request an FY'91 appropriation of $1,000,000 to accelerate the preconstruction engineering and design phase of a 45 ft. deep main channel. Local Interests are convinced of the merits of this project,and the Delaware River Port Authority has identified themselves as the sponsor for cost-sharing.

DELAWARE RIVER, VICINITY OF CAMDEN, NJ BECKETT STREET TERMINAL
(CONSTRUCTION)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$3,290,000

Project Description

The Beckett Street Terminal is located in Camden, New Jersey on the east bank of the Delaware River, opposite the City of Philadelphia. At present, there is inadequate depth to allow safe transit of the deep-draft vessels that ship dry bulk cargo to the Beckett Street Terminal. As a result of these inadequate depths, costly alternatives such as lightering and light loading are utilized. There is also dependence on high tides as well, to handle the shipping load. With dry bulk and general cargo fleet vessels ever increasing in size, this problem is expected to worsen.

After the situation was studied, the Corps' recommended improvement allows for deepening the channel from 37 to 40 ft. in order to permit the safe, efficient transit of deep-draft vessels. The plan of improvement includes dredging a trapezoidal approach channel to a depth of 40 ft., with a width of 1,100 ft., and lengths of 4,400 and 1,450 ft. along the Camden waterfront. Funds allocated would allow this project to be undertaken and completed in FY'91.

Local Interest Recommendation

Annually, 2.3 million tons of cargo, including containers, break-bulk, fruit, coal, scrap metal, lumber, gypsum, iron ore, and titanium slag are handled at South Jersey Port Corporation facilities.

The investment in this area is particularly important, as the City of Camden, one of the most economically depressed urban areas of our country, could receive an additional economic boost through millions of dollars in related revenues and hundreds of fulltime jobs.

This request for $3,290,000 of construction funds in FY'91 for this 40 ft. deep project will provide immediate benefits. Vessels which now leave light loaded with 37 ft. draft can realize economies by being loaded to 40 ft. Local Interests cost-shared the 37 ft. existing improvement and have agreed to provide the local share for this 40 ft. project.

DELAWARE RIVER, PHILADELPHIA, PA TO TRENTON, NJ
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$3,280,000
Local Interest Recommendation	$3,280,000

Project Description

Adopted in 1930 and modified in 1935, 1937, 1946, and 1954, this project provides for a channel and turning basins in the Delaware River, bank protection and bridge reconstruction. The project dimensions vary from 35-40 ft. deep, and 300-400 ft. wide. The project has been completed except for deepening the channel from 25 to 35 ft. between Newbold Island and the Trenton Marine Terminal, which has been placed in the deferred category. Local interests (City of Trenton) have not provided, as required, terminal facilities adequate for a 35 ft. channel.

Local Interest Recommendation

We wish to express our support for the Fiscal Year 1991 Budget Request of $3,280,000 which will provide funds needed to continue the contract for maintenance dredging of this project.

DELAWARE RIVER, PHILADELPHIA TO THE SEA, PA, NJ & DE
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$11,410,000
Local Interest Recommendation	$14,035,000

Project Description

The existing project was authorized in 1910 and modified in 1930, 1938, 1945, and 1954. The project provides for a 96.5 mile channel from Allegheny Avenue, Philadelphia, to deep water in Delaware Bay, for six anchorages, and for construction of dikes and training works for the regulation and control of tidal flow. Project dimensions vary from 37-40 ft. deep, and 800-1,000 ft. wide.

Local Interest Recommendation

The FY'91 Budget figure of $11,410,000 provides for continued maintenance dredging between Philadelphia to the Sea. However, we must point out that the Delaware River Projects principally carry bulk cargoes which require adequate Project depths. The $11,410,000 in the President's Budget represents an approximate $2,000,000 reduction from the FY'90 level for this line item and with no allowance made for increasing costs. This reduction will result in a decrease in dredging with the consequence of a reduction in vessels' draft. This will impose light loading, greater shipping costs, and an increase in lightering on the users of this waterway. The increase in lightering of oil is of particular concern since any additional oil handling increases the opportunity for oil spills. We urge that $2,625,000 be added to the Philadelphia to the Sea Project as additional capability so that project depths will continue to be maintained in the Delaware River. This will represent an increase in the appropriation for this project from $11,410,000 to $14,035,000. Three states benefit from this channel which provides access to their regional port complex.

KILL VAN KULL AND NEWARK BAY CHANNEL,
NEW YORK AND NEW JERSEY
(CONSTRUCTION)

FY'91 Budget Request	$31,000,000
Local Interest Recommendation	$31,000,000

Project Description

This navigation project, as authorized, will deepen the existing 35 ft. channels in the Kill Van Kull and Newark Bay to 40 ft. below mean low water (MLW). The project serves Port Newark and Port Elizabeth marine terminals with several widenings and a turning basin. The work covers Staten Island, New York; and Jersey City, Bayonne, Elizabeth, and Newark, New Jersey.

The Port Authority of New York and New Jersey, the local cooperating agency for this project, wishes to take construction in stages, with the first phase going to 40 ft. This project will immeasurably benefit Port Newark and Port Elizabeth, which together comprise the nation's largest container port.

The present 35 ft. channel precludes modern ocean voyage container ships from full loading. Substantially increased shipping costs, if allowed to continue, will discourage fleets with larger draft vessels from utilizing these facilities.

Local Interest Recommendation

The Kill Van Kull and Newark Bay Channels deepening project was authorized for construction in the Fiscal Year 1985 Supplemental Appropriations Act (Public Law 99-88) and The Water Resources Development Act of 1986 (Public Law 99-662). The Port Authority is providing local cooperation and the $51 million non-federal cost for this project.

With the deepening of the channels from 35 ft. to 40 ft. more than half complete, the Corps of Engineers is now entering a critical phase of construction consisting largely of rock removal through blasting. Unforeseen, but not insurmountable, problems concerning vessel movements and safety through this busiest channel in our port have compelled the Corps to proceed slowly and cautiously. In particular, problems concerning the availability of construction equipment, or the lack thereof, to remove rock have resulted in significant increases in the contract costs.

Work towards completion of this project is important to the competitive position of the port and we, therefore, support the $31,000,000 Budget Request for this project in Fiscal Year 1991.

MANASQUAN RIVER, NEW JERSEY
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$190,000
Local Interest Recommendation	$190,000

Project Description

This project provides for a channel 14 ft. deep and 250 ft. wide, protected by jetties and bulkheads from the Atlantic Ocean to the inshore end of the south jetty; thence 12 ft. deep and 300 ft. wide to within 300 ft. of the New York and Long Branch Railroad Bridge. This channel is approximately 1.5 miles long.

Local Interest Recommendation

We are pleased to see this project included in this year's Budget Request and wish to express our support for a Fiscal Year 1991 appropriation of $190,000 for its operation and maintenance.

NEW JERSEY INTRACOASTAL WATERWAY (NJIWW)
NEW JERSEY
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$2,529,000
Local Interest Recommendation	$2,529,000

Project Description

This project was adopted by the R&H Act approved March 2, 1945. This waterway, a sea-level inland water route approximately parallel with the New Jersey Coast, extends from the Atlantic Ocean at Manasquan Inlet, about 26 miles south of Sandy Hook, New Jersey, to the Delaware River, about 3 miles north of Cape May Point. The waterway extends through the inlet and up Manasquan River a distance of about 2 miles, and thence through Point Pleasant Canal, about 2 miles to the head of Barnegat Bay. It then passes through a series of bays, lagoons and thoroughfares along the New Jersey Coast to Cape May Harbor, and thence across Cape May County to Delaware Bay (Cape May Canal).

A final Environmental Impact Statement was submitted on September 12, 1975. Maintenance dredging is performed under government contract by hydraulic dredging and disposed in open water areas and on diked upland sites. Disposal areas are furnished by the State of New Jersey.

Local Interest Recommendation

We wish to express our support for the Fiscal Year 1991 Budget Request of $2,529,000 which will provide funds needed to maintain this navigation channel project.

NEWARK BAY, HACKENSACK & PASSAIC RIVERS, NEW JERSEY
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$50,000
Local Interest Recommendation	$50,000

Project Description

Newark Bay - This project provides for depths of 37 ft. in rock and 35 ft. in soft material, unless noted: a main channel 700 ft. wide to the branch channel to Port Newark, thence 500 ft. wide to a turning basin 1,300 ft. long and 900 ft. wide at the junction of the Hackensack and Passaic River channels.

Hackensack River - A channel in the Hackensack River, 34 ft. deep in rock and 32 ft. deep in soft material, 40 ft. wide from the upper end of the Newark Bay channel to C.R.R. of N.J. Brudge, length 1.1 miles; thence with the same depths and 300 ft. wide, to a point about 2,000 ft. north of the D.L. & W.R.R. Bridge, length 2.8 miles, with a turning basin 25 ft. deep at the upper end of the channel; thence 15 ft. deep, 200 ft. wide, to Little Ferry, 10.1 miles; thence 150 ft. wide, to the Court Street Bridge, length 2.3 miles. Total length about 16.3 miles.

Passaic River - A channel in the Passaic River, 30 ft. deep, 300 ft. wide, from Newark Bay to a point 3,000 ft. above Lincoln Highway Bridge, length 2.6 miles; thence 20 ft. deep, 300 ft. wide to the Nairn Linoleum Works, length about 4.4 miles; thence 16 ft. deep, 200 ft. wide, to the Montclair and Greenwood Lake R.R. Bridge, length about 1.1 miles; thence 10 ft. deep, 150 ft. wide, to the Eighth Street Bridge at Passaic, length 7.3 miles. Total length about 15.4 miles.

Local Interest Recommendation

We are pleased to see this project included in this year's Budget Request and wish to express our support for a Fiscal Year 1991 appropriation of $50,000 for the maintenance of these channels.

NEW YORK HARBOR & ADJACENT CHANNELS
CLAREMONT CHANNEL, NEW JERSEY
(PRECONSTRUCTION ENGINEERING & DESIGN)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$500,000

Project Description

Claremont Terminal Channel is located in Jersey City, Hudson County, New Jersey. It is a dead-end channel, about 2 miles long, extending into Upper New York Bay. The study area is within the Port of New York and New Jersey, the leading port on the Atlantic Coast.

Claremont Channel is presently a non-federal channel at an average depth of 27 ft. mean low water located just north of the Port Jersey Channel. A project to deepen Claremont Channel to 42 ft. mean low water was authorized for construction subject to a favorable report by the Secretary of the Army in the Water Resources Development Act of 1986 (P.L. 99-662). While authorized to 42 ft., the modified project will provide adequate shipping economies with a 34 ft. channel.

The major users of the channel are two scrap metal companies and a crushed stone aggregate terminal. For the past 10 years, scrap metal exports have averaged more than 600,000 long tons per year, and crushed stone transhipments for the past 6 years have totaled nearly 4 million tons annually. Combined, these three firms employ 300 persons directly and nearly 3,000 indirectly through suppliers, transporters and longshoremen.

Local Interest Recommendation

Local interests desire a deeper channel to better accommodate vessels used to export scrap metals and tranship crushed stone. Deepening will increase transportation efficiency by reducing the costs of topping off vessels and waiting for favorable tides. Local interests also believe that greater channel depths will increase safety by permitting vessels to operate with more desirable clearances.

No funds are contained in the Fiscal Year 1991 Budget Recommendation for the Corps of Engineers to initiate the preconstruction phase of this project. Thus, we request that $500,000 be appropriated in Fiscal Year 1991 for preconstruction engineering and design work for improvements to the Claremont Channel.

NEW YORK HARBOR & ADJACENT CHANNELS
PORT JERSEY CHANNEL, NEW JERSEY
(PRECONSTRUCTION ENGINEERING & DESIGN)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$ -0-

Project Description

This project will deepen a 35 ft. access channel (non-federal) to a 41 ft. channel (federal), providing safe and economical use of this waterway at all stages of tide. The Port Jersey Access Channel presently serves the Global Marine Container Terminal, which in turn serves 13 shipping lines. In 1989 this facility handled 296 vessel arrivals with over 250,000 container units (each unit measures 20 feet). Of the arriving vessels, 75% had design drafts too deep for the channel, with a third actually loaded to drafts necessitating delays awaiting high tide. More than four hundred terminal employees with an annual payroll of over $21 million, as well as another 110 contract workers, depend upon this facility for their livelihood. As a privately-owned terminal, Global also pays in excess of $1.2 million in local real estate taxes annually.

Also served by this channel is the U.S. Army Military Ocean Terminal facility and a parcel of land upon which the owner and local cooperating agency, the Port Authority of New York & New Jersey, has opened a newly constructed Auto Marine Terminal.

Local Interest Recommendation

The future of this facility is critically dependent upon a channel of at least 40 ft. deep so that it may remain competitive with other container terminals served by waterways of this and greater depths.

While no funds are contained in the Fiscal Year Budget Request for this project, money appropriated in FY'90 will complete the preconstruction engineering and design phase by late FY'91. As a new construction start is anticipated shortly thereafter, Local Interests are very actively involved in identifying an available funding source for the non-federal share of this project.

NEW YORK HARBOR COLLECTION AND REMOVAL OF DRIFT, NEW YORK AND NEW JERSEY (CONSTRUCTION)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$2,000,000

Project Description

This project calls for the collection and removal of more than 29 million cubic feet of drift from derelict vessels and nonrepairable piers and waterfront structures. It covers all of the Port of New York and New Jersey, including shores and tidal tributaries of Sandy Hook, Raritan Bay, Arthur Kill, Kill Van Kull, Lower New York Bay, Lower Hudson River, Harlem River, East River, Jamaica Bay, and the Western Port of Long Island Sound. The project encompasses seven New Jersey and seven New York counties. Four hundred and sixty miles of shoreline in New York and 295 miles of shoreline in New Jersey will be affected.

This project is aimed at the removal of approximately 2,230 sunken hulks and 149 decaying shore structures that are the sources of dangerous, unsightly and costly harbor drift. The Corps of Engineers has estimated that nearly 18,000 commercial, public and recreation vessels collide annually with drift in our port, causing damage to propellers, shafts and hulls. In addition, annual associated repair costs and other economic losses average greater than $53 million.

Local Interest Recommendation

The New York District Corps of Engineers has advised that the economics of the Drift Project will soon be updated to satisfy new Corps of Engineers budget policy criteria. In the interim, there are no funds being budgeted for continued design and construction. We believe that this is a mistake that will seriously delay the completion of the project. Having been newly reauthorized, continued progress in the Drift Project is contingent upon maintaining momentum.

We, therefore, request that $2 million be appropriated for the Drift Project in Fiscal Year 1991. These funds would be used to initiate long awaited construction along the Brooklyn II reach on the New York side, to complete construction along portions of the Jersey City and Weehawken-Edgewater waterfronts along the Hudson River and to continue the design of other reaches along the Kill Van Kull, Arthur Kill, East River, and Hackensack and Passaic Rivers. This is a modest sum of money that is strongly supported by the States of New York and New Jersey, and the City of New York, all local sponsors of the project.

NEW YORK AND NEW JERSEY CHANNELS
(OPERATION & MAINTENANCE)

FY'91 Budget Request	**$2,705,000**
Local Interest Recommendation	**$2,705,000**

Project Description

This project includes a channel 37 ft. deep in rock and 35 ft. deep in soft material, 600 ft. wide through Lower New York Bay, Raritan Bay and Arthur Kill to the junction of the channel into Newark Bay. The existing Kill Van Kull Channel is authorized for deepening to 45 ft. from the vicinity of Shooter Island and junction with Newark Bay through the Kill Van Kull to Constable Hook, then to a point near the intersection along the New Jersey Pierhead line through Kill Van Kull to Upper New York Bay. The length of the project is about 31.0 miles.

A local cooperation agreement was signed on May 30, 1986 with the Port Authority of New York and New Jersey for the Kill Van Kull, Newark Bay deepening project.

Local Interest Recommendation

We wish to express our support for the Fiscal Year 1991 Budget Request of $2,705,000 which will provide funds needed to dredge and maintain these federal navigation channels.

RARITAN RIVER, NEW JERSEY
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$600,000
Local Interest Recommendation	$600,000

Project Description

This project includes a main channel, 25 ft. deep by 300 ft. wide, from the turn in NY and NJ Channels, near Great Beds Light to the Raritan Arsenal Wharf, a turning basin opposite Raritan Arsenal Wharf, and a south channel 25 ft. deep and 300 ft. wide from its junction with the main channel opposite Keasby to the junction with the Main Channel at Crab Island.

Local Interest Recommendation

The project is about 96% complete. The work remaining to be done is the dredging of the South Channel to a depth of 10 ft. and 150 ft. wide for a length of 1,300 ft. to the upper junction with the main channel at Crab Island.

We are pleased to see this project included in this year's Budget Request and wish to express our supprt for a Fiscal Year 1991 appropriation of $600,000 for the operation and maintenance of this Channel.

RARITAN RIVER TO ARTHUR KILL CUT-OFF, NEW JERSEY (OPERATION & MAINTENANCE)

FY'91 Budget Request	$1,050,000
Local Interest Recommendation	$1,050,000

Project Description

A channel 20 ft. deep, 800 ft. wide, to connect the Raritan River Channel with the southern end of the Arthur Kill Channel, New York and New Jersey Channels project. Length about 1 mile.

Local Interest Recommendation

We are pleased to see this project included in this year's Budget Request and wish to express our support for a Fiscal Year 1991 appropriation of $1,050,000 for the maintenance of this channel.

RED HOOK FLATS ANCHORAGE, NEW YORK (STUDY)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$250,000

Project Description

A channel 40 ft. deep, of the following widths: 1,200 ft. from the Narrows to Bay Ridge Avenue, Brooklyn, thense 1,750 ft. to the junction of Bay Ridge and Red Hook Channels, and thence 1,200 ft. through Red Hook Channel to its junction with Buttermilk Channel. In the entrance to Gowanus Creek, the width narrows uniformly to 500 ft. at 28th Street, Brooklyn. Length about 4.0 miles.

Local Interest Recommendation

Within the Lower and Upper New York Bays, three anchorages exist that cannot accommodate today's class of ocean-going general cargo ships and tankers. The anchorages were designed by the Corps of Engineers in the early 1960's for a vessel averaging 525 ft. in overall length with a draft of 30 ft. Today's modern container ships are almost 1,000 ft. long with drafts of 40 ft., therefore requiring additional space and depth beyond that allowed for in the original desing. If the bi-state port is to remain productive, it must modernize to accommodate today's vessels.

We wish to request that the Corps of Engineers undertake a reconnaissance study for the deepening of the Red Hook Flats. Authority for such a study exists through a Congressional resolution adopted by the Senate Committee on Environment and Public Works on December 5, 1980. No funds for this effort are presently in the proposed Fiscal Year 1991 Budget. We strongly urge that $250,000 be provided for this study.

SALEM RIVER, NEW JERSEY
(PRECONSTRUCTION ENGINEERING & DESIGN)

FY'91 Budget Request	$150,000
Local Interest Recommendation	$150,000

Project Description

This project is a tributary of the Delaware River located in Salem County, New Jersey. Fiscal Year 1991 funds will be used to initiate the preconstruction engineering and design phase.

The draft Environmental Assessment found no significant impact, and a Section 401 water quality certificate will be obtained from the New Jersey Department of Environmental Protection prior to construction.

Local Interest Recommendation

We wish to support the budget recommendation of $150,000 in FY'91 which will initiate the preconstruction engineering and design phase of this project for a deeper federal channel (from 12 to 18 ft.) and a turning basin to support expanded commercial navigation.

The sponsor of this project is the City of Salem Municipal Port Authority.

SANDY HOOK BAY, NEW JERSEY
(OPERATION & MAINTENANCE)

FY'91 Budget Recommendation	$30,000
Local Interest Recommendation	$30,000

Project Description

Maintenance of this project includes the construction of a continuous (4,000 ft.) rubble-mound breakwater extending eastward from the former New Jersey Steamboat Co. dock at Atlantic Highlands, New Jersey. Dredging of the area in the lee of the breakwater, and seaward of the pierhead line, to a depth of 8 ft.

Local Interest Recommendation

We are pleased to see this project included in this year's Budget Request and wish to express our support for a Fiscal Year 1991 appropriation of $30,000 for its continued operation and maintenance.

SANDY HOOK BAY AT LEONARDO, NEW JERSEY
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$880,000
Local Interest Recommendation	$880,000

Project Description

An entrance channel 8 ft. deep, 150 ft. wide, and approximately 2,500 ft. long, from the 8 ft. contour in Sandy Hook Bay to the entrance of the small boat harbor at Leonardo. Length about 0.45 miles.

Local Interest Recommendation

We are pleased to see this project included in this year's Budget Request and wish to express our support for a Fiscal Year 1991 appropriation of $880,000 for the continued maintenance of this channel.

SHARK RIVER, NEW JERSEY
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$40,000
Local Interest Recommendation	$40,000

Project Description

A channel 18 ft. deep at mean low water and 150 ft. wid, across the bar at the entrance to the inlet; thence 12 ft. deep and generally 100 ft. wide through Main Channel and South Channel to the Route 35 bridge; thence 8 ft. deep and 100 ft. wide to the upper limit of the Belman Municipal Boat Basin, with additional depths and widths where necessary and practicable to produce satisfactory current velocities at bridges; and an anchorage 12 ft. deep over an area about 7.3 acres east of Route 71 bridge. Length about 1.7 miles.

Local Interest Recommendation

We are pleased to see this project included in this year's Budget Request and wish to express our support for a Fiscal Year 1991 appropriation of $40,000 for the continued maintenance of this channel.

FLOOD CONTROL

FRANCIS E. WALTER DAM, PENNSYLVANIA
(OPERATION & MAINTENANCE)

FY'91 Budget Request	$445,000
Local Interest Recommendation	$445,000

Project Description

The existing flood control and water supply dam rises to a maximum height of 234 ft. above the stream bed and extends 3,000 ft. across the valley. The modification to the existing dam to provide additional storage for water supply will include raising the dam by 30 ft. and replacing the existing intake tower and spillway. The water supply storage to be provided will be 70,000 acre-ft.

F.E. Walter Dam is located on the Lehigh River, 1/2 mile downstream of confluence of the Lehigh and Bear Creek in Luzerne and Carbon Counties, Pennsylvania, and about 75 miles upstream of the confluence of the Lehigh and Delaware Rivers at Easton.

Local Interest Recommendation

We wish to support the FY'91 Budget Request of $445,000 for the operation and maintenance of this project which benefits the four states represented in the Delaware River Basin Compact (Delaware, New Jersey, New York and Pennsylvania). While listed as a Pennsylvania project, this reservoir contributes to the water supply and flood control storage capacity of the entire region.

GREAT EGG HARBOR INLET AND PECK BEACH, NEW JERSEY
(CONSTRUCTION)

FY'91 Budget Request	$3,250,000
Local Interest Recommendation	$3,250,000

Project Description

This multiple purpose flood control, shore protection and navigation improvement provides for the modification of an existing beach erosion project. The project is located in Cape May and Atlantic Counties, New Jersey. Great Egg Harbor Inlet, an unimproved inlet, is about 1.1 miles wide at its narrowest point, and a tidal connection between the Atlantic Ocean and Great Egg Harbor Bay, the New Jersey Intracoastal Waterway and Great Egg Harbor River. Peck Beach is occupied in its entirety by the City of Ocean City and extends from Great Egg Harbor Inlet southward to Corson Inlet. The ocean frontage is about eight miles in length.

Local Interest Recommendation

The recommended plan consists of providing initial beachfill, with subsequent periodic nourishment, with a minimum berm width of 100 ft. at an elevation of +8.0 NGVD. The beachfill will extend from Surf Road southwest to 34th Street. This plan will require the initial placement of 4,118,000 cubic yards of material and subsequent periodic nourishment of approximately 1,072,000 cubic yards every three years. The material for the initial construction and periodic nourishment will be taken from the ebb shoal area located approximately 5,000 ft.

offshore of the Great Egg Harbor Inlet. This periodic dredging of the ebb shoal area will help alleviate the navigation difficulties in the Inlet. Additionally, the construction of the project will require the extension of 38 storm drain pipes.

In 1982 and 1983, the State of New Jersey indicated renewed interest in a scaled down version of the original project, based upon the findings of the New Jersey Shore Protection Master Plan. A new source of funds also resulted from a bond issue referendum passed by New Jersey voters in 1983. In 1986, New Jersey reiterated its intent to provide the necessary items of local cooperation and is also prepared to fund the non-federal total project cost.

We are please to see this project included in this year's Budget Request and wish to support the FY'91 appropriation of $3,250,000 which will provide funds necessary to begin construction.

LOWER SADDLE RIVER, NEW JERSEY
(PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'90 Budget Request	$590,000
Local Interest Recommendation	$590,000

Project Description

Major flooding of the Saddle River in recent years has plagued the communities of Garfield, Wallington, South Hackensack, Lodi, Saddle Brook, Rochelle Park and Fair Lawn, New Jersey. The Lower Saddle River study area, located in Bergen County, affects over 2,500 recreational, commercial and industrial establishments.

In an effort to provide protection against flooding in these communities, the proposed improvements for the Lower Saddle River consist of 5.2 miles of channel modification along the Saddle River, 1.7 miles of channel modification along Sprout Brook, the straightening of a meander near the mouth of the Saddle River and modifications to 22 bridges on both streams. These project improvements would provide protection against a 150-year flood event to the affected area. The recommendations for flood control of Saddle River would eliminate over $6,000,000 of flood damage to the area annually.

This preconstruction engineering and design effort was authorized by the Water Resources Development Act of 1986. Local Interest cost-sharing requirements will be provided for land easements, rights-of-way and relocations.

Local Interest Recommendation

We wish to express support for the Fiscal Year 1991 Budget Request of $590,000 which will be used to continue the preconstruction engineering and design phase. Included in the PE&D is the completion of topographic data collection and mapping, initiating collection of subsurface data, initiating preparation of a cultural resources survey report, initiating a hydraulic design, and project coordination. This preconstruction engineering and design effort is scheduled for completion in September 1993.

MOLLY ANN'S BROOK, NEW JERSEY
(PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'91 Budget Request	$420,000
Local Interest Recommendation	$420,000

Project Description

The study area, which is approximately 12 miles west-northwest of New York City, is located in Haledon, Prospect Park and Paterson, New Jersey. It includes Molly Ann's Brook from Union Avenue in Paterson upstream for 2.2 miles to Church Street in Haledon. Major flooding in recent years has adversely affected about 520 residential, commercial and industrial establishments in the 100-year flood plain.

The plan of improvement recommends a modified channel with a total length of 14,730 ft. which combines earthen and riprap-lined trapezoidal channels with concrete flumes and a drop structure.

The proposed plan would provide general protection against a 50-year flood event throughout the planning area. The average annual equivalent damages which would result without the project are estimated at over $2,000,000.

Local Interest Recommendation

The Molly Ann's Brook at Haledon, Prospect Park and Paterson, New Jersey flood control project is authorized for construction by the Water Resources Development Act of 1986. Local Interests have expressed a willingness to act as the non-federal cooperating agent for this flood control project.

We wish to support the FY'91 Budget Request of $420,000 which will be used to continue the preconstruction engineering and design phase of this project. Included in this phase will be the development of a plan of study, schedule and cost estimates, initiation of topographic data collection, as well as technical studies. This preconstruction engineering and design effort is scheduled for completion in June 1994.

PASSAIC RIVER MAIN STEM, NEW JERSEY AND NEW YORK
(PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'91 Budget Request	$5,000,000
Local Interest Recommendation	$7,500,000

Project Description

The Passaic River Basin encompasses 935 square miles in northern New Jersey and southeastern New York State. The Basin is drained by the Passaic River and its seven major tributaries: Saddle River, Pompton River, Ramapo River, Pequannock River, Wanaque River, Rockaway River and Whippany River. The flood plain area comprises more than 80 square miles and encompasses 45 municipalities.

The plan has been developed to protect over 30,000 structures in the critical flood problem area. The most severe recent flood occurred in April 1984, claiming two lives, with damages estimated at $360,000,000. The entire Basin, or portions thereof, was declared a disaster area in 1968, 1971, 1973, twice in 1975, and in 1984. The recurrence of the October 1903 flood of record would cause damages of nearly $2 billion, as well as the potential loss of lives.

The major elements of this flood control proposal are the two tunnels, with the key being the 13.5-mile long, 39 ft. diameter main tunnel, which will carry floodwaters from an inlet at the upper end of the Pompton River down to an outlet on the west bank of the Passaic River, just upstream of its confluence with the Third River in Clifton. The diversion tunnels and associated surface work are designed to protect against a 100-year flood event.

Local Interest Recommendation

This is a major project for the entire Passaic River Basin and, as such, the Passaic River Main Stem Flood Protection Feasibility Report has recommended the preparation of preconstruction engineering and design studies for this flood control plan. The local interest recommendation to increase the FY'91 Budget Request by $2,500,000 reflects the need to provide the full capability necessary to progress the preconstruction engineering and design phase for implementation of much needed flood protection.

PINE BROOK, MANALAPAN TOWNSHIP, NEW JERSEY
(PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$200,000

Project Description

This planning and engineering effort addresses the need for flood control improvements along Pine Brook in the Township of Manalapan, New Jersey. The Pine Brook Basin, located in east Central New Jersey, drains an area of 5.2 square miles and flows for a distance of 5.3 miles.

The planning and engineering study was authorized by the Water Resources Development Act of 1986, Section 401 (c). The authorized plan as developed entails channel modifications, clearing and snagging. The channel modification consists of widening and deepening of approximately 6,000 linear feet of Pine Brook. The clearing and snagging would be accomplished for a distance of 700 ft. above and 1,000 ft. below the channel limits.

Local Interest Recommendation

This project funding had been deferred but can now be used to initiate the planning and engineering portion of the study. The authorized plan and alternatives include development of benefits and costs, and the extent of environmental impacts.

Therefore, we wish to request that a Budget Recommendation of $200,000 be appropriated to provide the funding to initiate the PE&D portion of this project for which the State of New Jersey is now prepared to cost-share.

PROMPTON LAKE, PENNSYLVANIA (OPERATION & MAINTENANCE)

FY'91 Budget Request	**$379,000**
Local Interest Recommendation	**$379,000**

Project Description

Prompton Lake, a flood control and water supply project, is located on the Lackawaxen River, approximately 30 miles from the confluence of the Lackawaxen and Delaware Rivers in northeast Pennsylvania. The present dam extends to a maximum height of 140 ft. above the stream bed.

Prompton Reservoir controls the runoff from a drainage area of about 60 square miles and storage capacity for flood control. The authorized modification to Prompton would provide an active long-term storage of approximately 9 billion gallons of new water supply to the Delaware River Basin region. Two recent drought emergencies in the Delaware River Basin give emphasis to the early need for additional supplies of water. This project has been authorized by the Water Resources Development Act of 1986 and is included as part of the Comprehensive Plan of the Delaware River Basin Commission.

Local Interest Recommendation

While listed as a Pennsylvania project, this project also aids the states of Delaware, New Jersey and New York, which are represented jointly (along with the U.S. Department of the Interior) in the 1961 Delaware River Basin Compact.

We wish to support the Fiscal Year 1991 Budget Request of $379,000 for Operation and Maintenance of this project which contributes to the flood control and water supply storage capacity of the entire region.

RAMAPO RIVER AT OAKLAND, NEW JERSEY (PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'91 Budget Request	$250,000
Local Interest Recommendation	$250,000

Project Description

The Ramapo River, particularly in the Townships of Oakland, Wayne and Pompton Lakes, New Jersey, has experienced chronic flooding with recent floods occurring in ten out of the last sixteen years. Surrounded by an area saturated with development, 300 residences, along with recreational facilities and several commercial and industrial establishments, have been adversely affected by major flood damage.

The recommended plan of improvement for the study area includes installation of 5 ft. spillway crest gates atop Pompton Lakes Dam and 6,800 ft. of channel modification along with Ramapo River, both designed to reduce flood elevations. These improvements would provide protection against a 40-year flood event to over 300 structures throughout the planning area. These improvements for flood control would eliminate over $750,000 of flood damage per year.

This project has been authorized for construction by the Water Resources Development Act of 1986. The State of New Jersey has indicated its willingness to act as the non-federal cooperating agent for this project for land easements, rights-of-way and relocation as are necessary for the project.

Local Interest Recommendation

We wish to express support for the Fiscal Year 1991 Budget Request of $250,000 which will be used to continue the preconstruction engineering and design, the completion of topographic data collection and mapping, initiate collection and subsurface data, preparation of a cultural resources survey report, hydraulic design and project coordination. This preconstruction engineering and design effort is scheduled for completion in Fiscal Year 1992.

RAMAPO AND MAHWAH RIVERS
MAHWAH, NEW JERSEY AND SUFFERN, NEW YORK
(PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$300,000

Project Description

The Ramapo and Mahwah Rivers in the Township of Mahwah, New Jersey have been adversely affected by storm flooding. Over 220 structures, primarily residential, and several commercial and industrial establishments, have been damaged in recent years.

The Mahwah/Suffern area has experienced chronic flooding with recent floods in 1968, 1971,1973, 1977, 1979, 1980, 1983 and 1984. The most damaging flood of record was the November 1977 storm. A recurrence of this storm, which has a return interval of approximately 40 years, would provide protection against a 100-year flood event in the major damage area.

In order to control flood damage for the Mahwah/Suffern area, the recommended plan includes channel modification along approximately 7,000 feet of the Ramapo River and approximately 5,000 feet of the Mahwah River, and construction of a new bridge. Improvements would provide protection against a 100 year flood event to the major flood damaged area. The flood control recommendations would eliminate just under a million dollars of urban flood damage to the area annually.

Local Interest Recommendation

We wish to request a Fiscal Year 1991 Budget appropriation of $300,000 which will be used to redesign this project. The State of New York and the State of New Jersey have each indicated their intent to comply with the items of local cooperation.

RARITAN RIVER BASIN, GREEN BROOK SUB-BASIN, NEW JERSEY (PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'91 Budget Request	$2,000,000
Local Interest Recommendation	$3,000,000

Project Description

Located within the Raritan River Basin in north central New Jersey (Middlesex, Somerset and Union Counties), the Green Brook Sub-Basin study area drains approximately 65 square miles of urban, suburban and industrialized area.

Major flooding losses include not only physical damage to property, but loss of public access to commercial and industrial activity, rail and vehicular traffic. In 1971, Hurricane Doria caused more than $22 million in damage, while another major storm in 1973 contributed to six deaths, residential evacuation, and over $25 million in damages. Today, such a storm would cost nearly $65 million.

The recommended plan for flood control consists of approximately 15 miles of levees and floodwalls along the Green Brook and its tributaries; six pumping stations; 12 bridge replacements; and approximately three miles of stream realignment. The proposed plan for flood control would help eliminate the approximately $11 million in flood damage that occurs in the area annually.

Local Interest Recommendation

The Water Resources Development Act of 1986 authorized construction of the project described as Plan A in the report of the District Engineer. This project would include protection for the upper Green Brook Sub-Basin and the Stony Brook Sub-Basin and the Stony Brook Tributary, in addition to protection for the Lower Green Brook Sub-Basin.

The State of New Jersey has expressed a preference for the authorized plan, which would also provide protection to the upper basin communities. The Green Brook Flood Control Commission, composed of representatives of the Sub-Basin communities in three counties, also supports this position.

Fiscal Year 1990 funds are being used to continue the PE&D phase of this project, which includes refinement of hydraulic design and the initiation of structural design. In order to advance this project to its scheduled completion date, we wish to express our support for the FY'91 Budget Request of $2,000,00, and request an additional appropriation of $1,000,000 to be used to continue the preconstruction engineering and design studies and accelerate this project to construction in three years.

SHORE PROTECTION

DELAWARE BAY COASTLINE, NEW JERSEY AND DELAWARE
(STUDY)

FY'91 Budget Request	$355,000
Local Interest Recommendation	$355,000

Project Description

The study area is bordered by southern New Jersey to the east and the state of Delaware to the west. The upper limit of the study area is the Chesapeake and Delaware Canal and the Salem River, with the lower limit being Cape Henlopen and Cape May Point. This portion of the estuary is approximately 60 miles in length. Located on the New Jersey shoreline are the communities of Elsinboro, Sea Breeze, Gandy's Beach, Fortescue, Reed's Beach and Pierce's Point.

Combinations of high tides, river currents and wind generated waves are the major forces acting to cause erosion of the shoreline and flooding in the study area. Major damages are experienced during hurricanes and "nor'easter" storms (generally occurring from September to March).

Local Interest Recommendation

The goal of the study is to provide information on the long-term shoreline changes which will serve as a basis for sound coastal planning decisions.

Since the data is urgently needed in order to deal with the beach erosion/flooding problems in the Delaware Bay area and to implement remedial measures, we wish to support the Budget Request of $355,000 in Fiscal Year 1991 for this study which was authorized by the Water Resources Development Act of 1986.

Both the State of New Jersey and the State of Delaware are supportive of the study and have expressed a willingness to cost-share the feasibility phase.

NEW JERSEY SHORE PROTECTION, NEW JERSEY
(STUDY)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$1,000,000

Project Description

This study consists of the coastal area of New Jersey from Sandy Hook to Cape May Point. This coastal area is broadly defined to include inland areas impacted by stream flow and run-off, and coastal waters beyond the limit of deepwater disposal sites. It also includes adjacent coastal areas to the north and south which may contribute pollutants or forcing functions to the main study area.

Pollution events along the coast included algae blooms, dolphin kills, high bacteria levels and garbage slicks. These events contributed to business losses estimated at $350 million to $1.4 billion during the summer of 1987.

Severe erosion from the action of storm tides, tidal currents, wind waves and swells occurred along the study area, causing considerable economic loss. Substantial quantities of sand are being continuously lost, thereby narrowing and lowering the beaches. Public and private properties are subject to storm damage from wave attack and tidal inundation.

Local Interest Recommendation

Overall, these problems represent a serious deficiency in the quantity and character of coastal information available to predict or monitor coastal water quality and erosion. A comprehensive data collection effort is needed to better understand coastal processes and to improve the engineering base of Corps of Engineers projects.

The Corps of Engineers was authorized to undertake a large comprehensive study of coastal resources along the entire coast of New Jersey, prompted by numerous coastal problems during the 1987 summer season. This study will include the development of a physical, environmental and engineering data base on coastal area changes and processes.

No funds are contained in the Fiscal Year 1991 Budget Request to enable the Corps of Engineers to initiate the feasibility study phase of this project. Therefore, we wish to request that $1,000,000 be appropriated in FY'91 to advance this project into the next study phase. This study is strongly supported by the State of New Jersey.

BEACH EROSION

CAPE MAY INLET TO LOWER TOWNSHIP, NEW JERSEY
(CONSTRUCTION)

FY'91 Budget Request	$3,200,000
Local Interest Recommendation	$3,200,000

Project Description

The Cape May Inlet project was authorized for construction by the Water Resources Development Act of 1986. The recommended project consists of a beachwater weir at Cape May Inlet with construction of two new groins, beachfill, and maintenance of two new and seven existing groins. Beach nourishment material would be obtained periodically from a deposition basin located on the northeast side of the inlet and a shoreline monitoring program for Lower Township.

The project is important to the shoreline, both in and below Cape May. Cape May has suffered severe erosion since the construction of the Cape May Inlet jetties in 1911. This has been to the detriment of the recreation industry, boating, and fishing, and is responsible for repetitive storm-related damages.

Local Interest Recommendation

The Corps of Engineers completed the Phase II Advance Engineering & Design studies for this project in July, 1983 and recommended a project to restore the damage caused to the Cape May navigation jetties. They recommended that this work be done, and we support the FY'91 Budget Request of $3,200,000 which will be used to continue the construction phase of this project which is being cost-shared with available State funds.

SANDY HOOK TO BARNEGAT INLET, NEW JERSEY
(CONSTRUCTION)

FY'91 Budget Request	$29,000,000
Local Interest Recommendation	$29,000,000

Project Description

The overall project area lies along the Atlantic Ocean Shoreline of New Jersey in Monmouth and Ocean Counties between Sandy Hook to the north and Barnegat Inlet to the south.

Erosion has seriously reduced the width of most beaches in the study area, with consequent exposure of shore to storm damage. The State of New Jersey and majors of the affected communities are also very concerned over the increased potential for damages to residential and commercial structures.

The March 1962 storm caused $31,000,000 worth of damages (based on today's dollars) along the 25-mile stretch of shore from Sandy Hook to Manasquan Inlet. Subsequent emergency restoration works in this reach cost over $7 million (again, in 1987 dollars).

Improvements to Section I include 12 miles of beach placement, construction of 23 groins and extension of 14 existing groins. Section II also suffers from eroding beaches and calls for beach placement over nine miles.

Local Interest Recommendation

Consistent with the Water Resources Development Act of 1986, the non-federal share of construction and maintenance of the Ocean Township to Sandy Hook reach consists of monies expended by non-federal interests for reconstruction of the seawall at Sea Bright and Monmouth Beach.

The urgency of this project results from even less beachfront being in place today as a result of erosion and storms. Local communities are fearful that the next coastal storm would be catastrophic with increased risk of coastal flooding from storm surges.

We wish to express our appreciation and our support for the FY'91 Budget Request of $29,000,000 which will be used to continue the construction phase of this project. The State of New Jersey has stated its willingness to provide the items of local cooperation and has escrowed the necessary State share to demonstrate a commitment to this project.

STORM DAMAGE REDUCTION

RARITAN BAY AND SANDY HOOK BAY, NEW JERSEY
(STUDY)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$500,000

Project Description

The project provides for combined shore and hurricane protection at Old Bridge Township (formerly Madison Township), shore protection at Aberdeen Township (formerly Matawan Township), and Union Beach, and shore and hurricane protection at Keansberg and East Keansberg. Where hurricane protection is involved, the improvements include beachfill and levees to an elevation of 15 ft. above mean sea level. Where only beach erosion control is involved, beachfills are to be placed for a width of 100 ft. at elevation 5.5 ft. above mean sea level, except in front of bluffs where the fill is to be 23 ft. wide at elevation 10 ft. above mean sea level.

Local Interest Recommendation

This storm damage protection reconnaissance study will prove beneficial to coastal Bayshore communities not presently protected from storm damage including inundation, wave attack and coastal erosion.

Therefore, we wish to request a Fiscal Year 1991 Budget appropriation of $500,000 which will be used to initiate a pre-authorization reconnaissance study.

RARITAN BAY AND SANDY HOOK BAY, NEW JERSEY
SECTION 934
(STUDY)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$600,000

Project Description

Section 934 of the Water Resources Development Act of 1986 grants the Corps of Engineers the authority to study completed Beach Nourishment projects for a period of up to 50 years to determine if additional improvements are required. This post-authorization revisit would determine whether or not there are high priority federal benefits to justify new work and warrant federal funding to resume nourishment of these important coastal works.

Local Interest Recommendation

We wish to request that a Fiscal Year 1991 Budget appropriation of $600,000 be approved to allow the Corps of Engineers to revisit this project and study the storm damage reduction benefits to the Bayshore region to be realized from renewed coastal beach nourishment projects.

PLANNING ASSISTANCE

SECTION 22, P.L. 93-251, NEW JERSEY
PLANNING ASSISTANCE
(STUDY)

FY'91 Budget Request	$ -0-
Local Interest Recommendation	$300,000

Project Description

Section 22 of the Water Resources Development Act of 1974 provides authority for the Corps of Engineers to assist the states in preparation of comprehensive plans for the development, utilization and conservation of water and related land resources. Assistance is provided on the basis of state requests, and eligibility is determined by the objectives of the state studies. Consequently, the state must have a planning program either underway or characterized in sufficient detail so that the validity of its request may be appraised. In addition, only that assistance which can be undertaken by Corps personnel may be provided.

In accordance with P.L. 99-662, state allotments from the nationwide appropriation are limited to $300,000 annually, but may be less depending upon the needs of individual states. The program may encompass many types of studies including water supply, water quality, water conservation, hydropower development, flood control, erosion and navigation. Typical studies are at a reconnaissance level of detail.

Local Interest Recommendation

This project was established to provide planning assistance to states. Funds requested are to be utilized by the Corps of Engineers to perform engineering evaluations of water resource problems within the State of New Jersey.

This planning program has provided meaningful levels of funding for which New Jersey is most appreciative. However, there are several planning projects for which we wish to request funds in FY'91 through this program. The total funds requested for these proposed studies is $300,000 and the State of New Jersey is prepared to financially participate as may be necessary to secure these funds.

MARITIME ADVISORY COUNCIL AFFILIATE ORGANIZATIONS

DELAWARE RIVER AND BAY AUTHORITY

DELAWARE RIVER PORT AUTHORITY

INTERNATIONAL UNION OF OPERATING ENGINEERS

JOINT EXECUTIVE COMMITTEE FOR THE IMPROVEMENT OF THE DELAWARE

MARINE TRADES ASSOCIATION OF NEW JERSEY

MARITIME ASSOCIATION OF THE PORT OF NEW YORK/NEW JERSEY

NEW JERSEY ALLIANCE FOR ACTION

NEW JERSEY CHAPTER - NATIONAL DREDGING ASSOCIATION -

NEW JERSEY DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

NEW JERSEY DEPARTMENT OF TRANSPORTATION

NEW JERSEY MARINE SCIENCES CONSORTIUM

NEW JERSEY STATE CHAMBER OF COMMERCE

PENJERDEL COUNCIL

PHILADELPHIA MARITIME EXCHANGE

PILOT'S ASSOCIATION FOR THE BAY AND RIVER DELAWARE

PORT AUTHORITY OF NEW YORK & NEW JERSEY

SOUTH JERSEY PORT CORPORATION

TOWBOAT & HARBOR CARRIERS ASSOCIATION OF NEW YORK/NEW JERSEY

UNITED NEW YORK & NEW JERSEY SANDY HOOK PILOTS ASSOCIATION

KILL VAN KULL AND NEWARK BAY CHANNELS PROJECT

STATEMENT OF LILLIAN LIBURDI, DIRECTOR, PORT DEVELOPMENT, PORT AUTHORITY OF NEW YORK AND NEW JERSEY

Senator DOMENICI. Ms. Liburdi.

Ms. LIBURDI. Yes; thank you. Mr. Chairman, we appreciate your support and the subcommittee's past support. We hope that we can look forward to continuing our working relationship with you on important matters on water resource projects. I would like to briefly discuss the Kill Van Kull and Newark Bay channels harbor deepening project for which the port authority is providing local cooperation and $51 million non-Federal cost sharing.

With the deepening of the channels from 35 to 45 feet more than one-half complete, the Corps of Engineers is now entering a critical phase of construction consisting largely of rock removal through blasting. Problems concerning contracting costs, vessel movements, and safety have compelled the Corps to proceed slowly. In particular, problems concerning the availability of construction equipment to remove rock in the Kill Van Kull may have resulted in significant increases in the cost of the proposed contract. To minimize these cost increases and attract more bidders, contract durations have been lengthened for construction.

The administration's request contains $31 million in fiscal year 1991. The construction will be intensive but will have to proceed cautiously in order to maintain vessel safety, our paramount concern, in this busiest channel of our port. We support the Corps' request of $31 million.

Under the category of operation and maintenance, the administration's request includes $21,391,000 for 28 navigation projects within the Port of New York and New Jersey. Since our complex channel system is essential to the productivity and efficiency of the port, we appreciate the support the administration proposes, because it will keep our waterways open to commercial navigation.

Mr. Chairman, my full text is provided for the Committee's consideration. I believe Ms. Zedalis has some comments on behalf of the City of New York.

[The statement follows:]

STATEMENT OF LILLIAN C. LIBURDI

Endorsed By

Bayonne Chamber of Commerce (NJ)
Board of Commissioners of Pilotage of the State of New Jersey
Brooklyn Chamber of Commerce (NY)
Chamber of Commerce of the Borough of Queens (NY)
City of Newark, Department of Engineering (NJ)
Commerce and Industry Association of New Jersey
Downtown Brooklyn Development Association
Hudson County Chamber of Commerce and Industry (NJ)
International Longshoreman's Association
Local 333 - United Marine Division
Maritime Advisory Council of New Jersey
Maritime Association of the Port of New York and New Jersey
Maritime Port Council of Greater New York and Vicinity
Metro Newark Chamber of Commerce (NJ)
New Jersey Alliance for Action
New Jersey Citizens Transportation Council
New Jersey State Chamber of Commerce
New York Board of Trade
New York Chamber of Commerce and Industry
New York-New Jersey Port Promotion Association
New York Shipping Association, Inc.
Save Our Port
Staten Island Chamber of Commerce (NY)
Towboat and Harbor Carriers Association of New York and New Jersey
Union County Chamber of Commerce (NJ)
Union County Planning Board (NJ)
United New Jersey Sandy Hook Pilots Benevolent Association
United New York Sandy Hook Pilots Benevolent Association

I am Lillian C. Liburdi, Director, Port Department of The Port Authority of New York and New Jersey. Joining me are George R. Zoffinger, Commissioner of Commerce, Energy and Economic Development, the State of New Jersey and Anthony M. Riccio, Jr., Commissioner of Ports and Trade, the City of New York. We speak on behalf of the 28 civil, trade, labor and governmental interests listed on the cover of our statement in urging that sufficient Federal funds be appropriated in Fiscal Year 1991 for the design, construction and maintenance of essential navigation projects in the Port of New York and New Jersey under the U.S. Army, Corps of Engineers' Civil Works program. We thank you, Mr. Chairman, and members of the subcommittee for affording us time to make our funding needs known to you.

As has been the case in recent years, our modest request for funds for the Port of New York and New Jersey is made in the shadow of continuing Federal budget deficits. When we ask for sums beyond what is provided in the budget it is not a casual request. We scale down our view of all that we would like to see done in the port to a modest, practical level that is consistent with fiscal reality. The recommended funding levels contained herein constitute the basic minimum which is needed for the Port of New York and New Jersey. A summary of our recommendations follows:

	Budget Recommendation	Port Recommendation	Difference
CONSTRUCTION			
Kill Van Kull and Newark Bay Channels, NY & NJ	$31,000,000	$31,000,000	None
New York Harbor Collection and Removal of Drift, NY & NJ	Zero	2,000,000	$2,000,000
STUDY			
New York Harbor and Adjacent Channels (Claremont Channel), NJ	Zero	500,000	500,000
New York Harbor and Adjacent Channels (Port Jersey Channel), NJ	Zero	Zero	
Red Hook Flats Anchorage, NY	Zero	250,000	250,000
OPERATION & MAINTENANCE			
28 Navigation projects as contained in the Budget	21,391,000	21,391,000	None
TOTALS	$52,391,000	$55,141,000	$2,750,000

KILL VAN KULL AND NEWARK BAY CHANNELS, NY & NJ

The Kill Van Kull and Newark Bay Channels, NY & NJ is a harbor deepening project authorized for construction in the Fiscal Year 1985 Supplemental Appropriations Act (Public Law 99-88) and The Water Resources Development Act of 1986 (Public Law 99-662). The Port Authority is providing local cooperation and the $51 million non-Federal cost for this project.

With the deepening of the channels from 35 feet to 40 feet more than half complete, the Corps of Engineers is now entering a critical phase of construction consisting largely of rock removal through blasting. Unforeseen but not insurmountable problems concerning construction costs, vessel movements and safety have compelled the Corps to proceed slowly. In particular, problems concerning the availability of construction equipment or the lack thereof to remove rock in the Kill Van Kull may have resulted in significant increases in the cost of the proposed contracts. To minimize these cost increases and attract more bidders, contract durations have been lengthened for construction. The Federal Budget contains $31 million in Fiscal Year 1991. The construction will be intensive but will have to proceed cautiously in order to maintain vessel safety, our paramount concern, in this busiest channel of our Port. We support the Corps' request of $31 million.

OPERATION & MAINTENANCE

Under the category of Operation and Maintenance, the Federal Budget is recommending $21.391 million for 28 navigation project within the Port of New York and New Jersey. We appreciate this support which keeps our waterways open to commercial navigation. I am happy to report that our foreign oceanborne general cargo trade in 1989 rebounded significantly from the depressed level of 1988. Our volume rose 9.8% or almost 1.2 million tons for a total trade of more than 13,250,000 tons. This was the third highest level of general cargo in the history of the Port of New York and New Jersey, exceeded only by 1985 and 1986 trade. General cargo exports alone surged more than 31% compared to 1988. Our complex channel system is essential to the productivity of the port and the Operation and Maintenance program recommended by the President for FY91 is necessary to our continued efficiency. We wholeheartedly support this budget recommendation.

The remainder of our presentation will be provided by Commissioners Zoffinger and Riccio.

* * * * * *

Thank you, Mrs. Liburdi. Mr. Chairman and distinguished members of the Subcommittee, I am George R. Zoffinger, Commissioner of New Jersey's Department of Commerce, Energy and Economic Development. In that capacity, I also serve as Honorary Chairman of the Department's Maritime Advisory Council. The Council was established to emphasize New Jersey's position as a maritime state and to support Federal river and harbor projects of benefit to our regional economy.

NEW YORK HARBOR AND ADJACENT CHANNELS (PORT JERSEY CHANNEL), NJ

The Port Jersey Channel in Bayonne, New Jersey presently serves 13 shipping lines at the Global Marine Container Terminal. In 1989, this facility handled 296 vessel arrivals with over 250,000 twenty-foot unit containers. More than 400 terminal employees with an annual payroll of over $21 million, as well as another 110 contract workers, depend on this facility for their livelihood. As a privately owned terminal, Global pays more than $1.2 million in local real estate taxes annually. In addition, the channel also provides access for the U.S. Army Military Ocean Terminal and the newly constructed Port Authority Auto Marine Terminal. This improvement was authorized for construction by the Water Resources Development Act of 1986.

While no funds are contained in the proposed Federal Fiscal Year 1991 Budget for this project, money appropriated in FY90 is scheduled to complete the preconstruction engineering and design phase by late FY91. As a new construction start is expected shortly thereafter, local interests anticipate future appropriations and are very actively involved in identifying a funding source for the non-Federal share of this project.

NEW YORK HARBOR AND ADJACENT CHANNELS (CLAREMONT CHANNEL), NJ

Claremont Channel is presently a non-Federal channel at an average depth of 27 feet mean low water, located in Jersey City just north of the Port Jersey Channel. A project to deepen Claremont Channel to 42 feet mean low water was authorized for construction in the Water Resources Development Act of 1986. While authorized to 42 feet, the modified project will provide adequate shipping economies with a 34 feet channel.

The major users of the channel are two scrap metal exporting companies and a crushed stone aggregate terminal. For the past 10 years, scrap metal exports have averaged more than 600,000 long tons per year and crushed stone transshipments for the past 6 years have totaled nearly 4 million tons annually. Combined, these three firms employ 300 persons directly and nearly 3,000 indirectly through suppliers, truckers and longshoremen.

No funds are contained in the Fiscal Year 1991 Budget recommendations for the Corps of Engineers to initiate the preconstruction phase of this project. Thus, we request that $500,000 be appropriated in Fiscal Year 1991 for preconstruction engineering and design work for improvements to the Claremont Channel.

I will now ask Commissioner Riccio to elaborate on our remaining funding recommendations for the Port.

* * * * * *

Thank you, Commissioner Zoffinger. I am Anthony M. Riccio, Jr., Commissioner of Ports and Trade, the City of New York.

NEW YORK HARBOR COLLECTION AND REMOVAL OF DRIFT PROJECT, NY & NJ

The New York Harbor Collection and Removal of Drift Project, NY & NJ is aimed at the removal of approximately 2,230 sunken hulks and 149 decaying shore structures that are the sources of dangerous, unsightly and costly harbor drift which also fouls our beaches. The Corps of Engineers has estimated that nearly 18,000 commercial, public and recreation vessels collide annually with drift in our port causing damage to propellers, shafts and hulls. In addition, annual associated repair costs and other economic losses average greater than $53 million.

Mr. Chairman, we have been advised by the New York District, Corps of Engineers that the economics of the Drift Project are to be re-evaluated to satisfy new Corps of Engineers budget policy criteria. This study has delayed the cleanup project for the last six months, and we are here today requesting funds for much of the same work as last year. Nearly half of the funding provided by Congress for the current fiscal year is being diverted for more studies on a project that is half complete. The project authorization was extended only last Congress. In our view, the Corps of Engineers is second-guessing Congress and we believe that this is an unnecessary decision that wastes precious dollars and could seriously delay the completion of the project.

There are no funds being budgeted for continued design and construction. The project slowed during the 100th Congress in anticipation of reauthorization, but with the FY90 appropriation, we looked forward to a resumption of pace and a gain in momentum. Therefore, we request that $2 million be appropriated for the Drift Project in Fiscal Year 1991. These funds would be used to initiate long awaited construction along the Brooklyn II reach on the New York side. The port will be hosting the Christopher Columbus Quincentennial Celebration in 1992. The first area that will be seen by the many foreign vessels participating in the festivities will be Brooklyn. Funds must be appropriated this year if any of this work is to be completed by mid-1992. The funds would also be used to complete construction along portions of the Jersey City and Weehawken-Edgewater waterfronts along the Hudson River and to continue the design of other reaches along the Kill Van Kull, Arthur Kill, East River and Hackensack and Passaic Rivers. This is a modest sum of money that is strongly supported by the States of New York and New Jersey and the City of New York, all local sponsors to the project, who are prepared to pay their non-Federal share of costs.

RED HOOK FLATS ANCHORAGE, NY

Presently, there exist three anchorage areas in the Lower and Upper New York Bays that accommodate ocean going general cargo ships and tankers. There is no additional capacity within these anchorages to accommodate today's modern vessels. The anchorages were designed by the Corps of Engineers in the early 1960's for a vessel averaging 525 feet in overall length with a draft of 30 feet. Today's modern ships are almost 1,000 feet long with drafts of 40 feet therefore requiring additional space and depth beyond that allowed for in the original anchorage design. If our bi-State port is to remain productive, it must modernize to accommodate today's vessels. We urgently request that $250,000 be made available to the Corps of Engineers for a reconnaissance study for the deepening of Red Hook Flats. The Corps has the authority to undertake this study under a Congressional resolution adopted by the Senate Committee on Environment and Public Works on December 5, 1980. No funds for this effort are presently in the proposed Fiscal Year 1991 Budget. We strongly urge that $250,000 be provided for this study.

* * * * * *

On behalf of Mrs. Liburdi, Commissioner Zoffinger and myself, we thank you for the courtesy of presenting our recommendations to the Committee. We will be pleased to try to answer any questions you may have.

NEW YORK HARBOR COLLECTION AND REMOVAL OF DRIFT PROJECT

STATEMENT OF PATRICIA ZEDALIS, DEPUTY COMMISSIONER OF PORTS AND TRADE, NEW YORK CITY

Senator **DOMENICI**. Would you state your name again, please?

Ms. **ZEDALIS**. Sure. I am Patricia Zedalis, deputy commissioner for the New York City Department of Ports and Trade. First, I want to start by thanking the committee for its support of our harbor drift project and other port projects. Without your support, we would not have had any funds for fiscal year 1990.

The first project I want to describe to you is our harbor drift project. This project will replace over 2,000 sunken hulks and 149 decaying shore structures that are the source of dangerous, unsightly, and costly harbor drift which also fouls on our beaches. The Corps of Engineers has estimated that nearly 18,000 vessels collide annually with harbor drift in our port causing damages to propellers, shafts, and hulls. Annual repair costs and other economic losses average greater than $53 million.

We have been advised by the New York District, Corps of Engineers, that the economics of the drift project are to be reevaluated to satisfy new Corps budget policy criteria. This study has delayed the cleanup project for the last 6 months, and we are here today requesting funds for much of the same work as last year.

Nearly one-half of the funding provided by Congress for the current fiscal year is being diverted for more studies on a project that is already one-half complete. The project authorization was extended only last Congress. In our view the Corps is second-guessing Congress. We believe it is an unnecessary decision that wastes precious dollars and will seriously delay the completion of the project.

We are requesting $2 million to be appropriated this year for the drift project. These funds would be used to initiate long-awaited construction of Brooklyn II Reach on the New York side. The port will be hosting the Christopher Columbus Quincentennial Celebration in 1992. The first area that will be seen by the many foreign vessels participating in the festivities will be Brooklyn. Funds must be appropriated this year if any of this work is to be completed by mid-1992.

Funds would also be used to complete construction along portions of the Jersey City Weehawken-Edgewater waterfronts along the Hudson and continue the design of other reaches along the Kill Van Kull, Arthur Kill, East River, and Hackensack and Passaic Rivers.

RED HOOK FLATS ANCHORAGE

The second project is the Red Hook Flats anchorage. Presently, there are three existing anchorage areas in the lower and upper New York bays that can accommodate oceangoing cargo ships and tankers; however, these anchorages have no additional capacity to accommodate today's modern vessels which are almost 1,000-feet long with drafts of 40 feet, therefore requiring additional space and depth beyond that allowed for in the original anchorage design. If our bistate port is to remain productive, it must modernize to accommodate today's vessels.

We urgently request that $250,000 be made available to the Corps for a reconnaissance study for the deepening of the Red Hook Flats. The Corps has the authority under a congressional resolution adopted by the Senate Committee on Environment and Public Works. No funds are presently proposed in the fiscal year 1991 budget.

Before I close, we are going to be submitting some addenda to our written testimony today on a couple of other projects in the New York area, including the Coney Island beach erosion control project. On behalf of Ms. Liburdi, Mr. Grossi, and myself, we thank you for the courtesy of presenting our recommendations to the committee.

Senator DOMENICI. With reference to your supplemental testimony regarding the other project or projects, would you just note that the committee desires to have the record completed by April 20, so if you can do that, we would appreciate it. It would be helpful to your cause.

Ms. ZEDALIS. OK; thank you.

Senator DOMENICI. Let me indicate to you that we have a summary of the 1991 requests in their totality and we have the local interest's recommendations. This entire series of budget items is very large, $105 million, almost $106 million in the President's request. We gather the difference is $16 million between what you are requesting in total so it is not something that is outrageous or clearly impossible and may be doable. We have the same problem that everybody has in budgeting, but we understand the significance of the projects. We thank you for your testimony.

ST. GEORGES BRIDGE, DE

PREPARED STATEMENT SUBMITTED BY SENATOR BIDEN AND SENATOR ROTH

At this point, I understand that Senator Roth and Senator Biden have indicated they will submit testimony on items of interest to them. Their testimony will be incorporated in the record when received.

We are now going to take a 2- or 3-minute break, and maybe the staff can line up the next series of witnesses, and we will return and complete the witnesses shortly.

[A brief recess was taken.]

[The statement follows:]

STATEMENT OF SENATOR BIDEN

The St. Georges Bridge over the Chesapeake and Delaware Canal is a crucial link for north-south traffic in the state of Delaware and the Delmarva peninsula. A new bridge is needed at St. Georges to handle projected traffic growth along that route. We believe the federal government has contractual obligation to provide "good and sufficient crossings" over the canal. We are discussing this obligation with the Administration.

It is our hope that the federal obligation issue with regard to the St. Georges Bridge can be resolved in the near future so construction can begin in a timely manner. Toward that end, we have enclosed testimony and background information on the St. Georges Bridge from Kermit Justice, Delaware's Secretary of Transportation. We ask that it be included in the record for the Energy and Water Appropriations bill for the 1991 fiscal year.

We expect to be able to discuss this issue with you in further detail in the next few weeks. Your cooperation and that of your staff on this most important matter to the economy of our state is appreciated.

May 3, 1990

DELAWARE US ROUTE 13 RELIEF ROUTE BRIDGE OVER THE FEDERAL CHESAPEAKE AND DELAWARE CANAL

TESTIMONY OF MICHAEL N. CASTLE
GOVERNOR, STATE OF DELAWARE
FOR
THE SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
COMMITTEE ON APPROPRIATIONS
UNITED STATES SENATE

Mr. Chairman and members of the Subcommittee, this testimony presents the request of the State of Delaware for 1991 appropriation action for a new bridge over the Federal Chesapeake and Delaware Canal. This bridge is needed now to meet traffic demands on US Route 13.

The estimated capital cost of this bridge with necessary approaches is $111.5 million. We estimate contractor earnings in FY 1991-1994 in $million at 26, 48, 31, and 6.5 respectively.

Given the pressure on the Federal Budget this year, Delaware has developed a proposal to postpone first Federal payments until 1994 or 1995, that we will describe later for the Committee's consideration.

This is an urgent matter. Our traffic projections, prepared under Federal Highway Administration procedures, indicate that the present Route 13 bridge at St. George's will be overloaded by 1994. It carries 33% of the total traffic flow in and out of the Peninsula, and 60% of the traffic across the C&D Canal. Traffic volume is growing rapidly. The State has already begun building a Relief Route. If traffic demands are to be met, and if the bridge is to be opened when the Relief Route is ready, construction of the new bridge must begin before the end of this calendar year.

We believe our proposal is the best way for all concerned to deal with a unique set of circumstances. In summary, these circumstances are:

- The Chesapeake and Delaware Canal cuts completely across the DelMarVa Peninsula, severing Delaware border to border. It was dug across fast land that originally required no bridges. It severs all north-south surface transportation.
- Today, to meet the needs of ocean shipping, Federal standards require bridges over the Canal to provide a clear span across a 450-foot wide navigation channel, 140 feet above the water. Such a bridge, with necessary approaches, is a costly structure.
- The Federal Government is responsible for providing good and sufficient public highway bridges to meet traffic demands over the Federal Chesapeake and Delaware Canal for three basic reasons:
    - Legal: The legal history of the Canal established a contractual relationship between the Federal Government and the State of Delaware under which the Federal Government is obligated to provide good and sufficient bridges to meet the needs of public highway traffic over the Canal at no cost to the State.
    - Equity: The Federal Canal cuts Delaware completely in two for the benefit of other localities, primarily the port of Baltimore. It would be inequitable indeed for Delaware to have to pay the added costs of bridges over the Canal for its public highways, given that the State receives essentially none of the benefits of the Canal.
    - Good faith: Throughout the history of Federal involvement in the Canal, both Delaware and the Federal Government have acted on the understanding that the Federal Government was responsible for providing highway bridges at no cost to the State. Good faith mandates that this understanding not be suddenly and unilaterally abrogated.
- Traffic demands in the US Route 13 corridor cannot be met beyond 1994 by the existing highway or the existing 50-year-old Federal bridge at St. George's, Delaware.
- Delaware now has under construction a 46-mile limited access relief route for US Route 13, that will cost $400 million in State funds. This requires the new Federal bridge.
- The State has designed a new bridge.

- All planning for the Relief Route and the bridge, including the final Environmental Impact Statement, has been completed according to Federal standards and environmental law with the oversight and cooperation of the Federal Highway Administration, the Corps of Engineers, and the EPA.

- The Corps of Engineers has apparently made no effort to budget for the new bridge, nor to inform the Congress of the need for it.

- Bridge construction must be started this fall to meet traffic demands.

These circumstances are described more fully in the attachments to this testimony.

At this point, I would like to address two related questions that may be central to action on this issue - the need for authorization, and the reasons for Delaware's specific proposal.

Authorization: We have testified on the issue of Federal responsibility before the Water Resources Subcommittee of the House Public Works and Transportation Committee and submitted testimony to the Subcommittee on Water Resources, Transportation, and Infrastructure of the Senate Committee of Environment and Public Works . We asked for legislation clarifying the authority of the Corps of Engineers to provide necessary bridges because the issue of possible need for such legislation had been raised with us. We said there that while we did not think that special authorization was necessary in this case, we certainly want to do whatever the Congress may require to clear the way for Federal action on the bridge.

Frankly, we think that the existing continuing authority to operate and maintain Federal water projects should provide all the authority the Corps needs to enter into the arrangement we suggest. This is because we propose no changes in the Canal, which is a single-purpose navigation project, and we propose no Federal construction. Providing highway bridges is part of the cost of operating the shipping Canal, and renting a bridge constructed by the State would appear a legitimate use of funds appropriated for operation and maintenance.

I wish to make it quite clear, however, that we defer entirely to the Congress in this matter.

Delaware does ask that, if this committee deems that specific separate authorizing legislation is required, the committee go ahead with appropriations action this year, but make it clear in the language that the appropriation becomes effective only after separate authorizing legislation is enacted. This would avoid the year's delay that would otherwise occur, without preempting the authorization issue.

Delaware's proposal for delayed Federal funding: The State of Delaware recognizes the pressure on the FY 1991 Federal budget, but must also be responsive to the urgent need for expanded traffic capacity over the Canal. Therefore, the State of Delaware is prepared to finance and build the bridge, beginning construction late this calendar year, and lease it to the U. S. Army Corps of Engineers on completion at a rate that would recover our cost of construction, debt service, and operation and maintenance.

Federal funding requirements for FY 1991 would be only the personnel cost of reviewing and signing a lease agreement. Future appropriations requirements would be $20.4 million/year, beginning in the last quarter of FY 1994, assuming ten-year capital repayment and $0.3 million annual operation and maintenance cost.

We do need this year a Federal commitment to begin lease payments on completion of the bridge, or we fear the Corps may not meet its obligation. We propose that this commitment be in the form of appropriation language, or in reports on the FY 1991 appropriation bill. Attached is suggested language that would accomplish our purpose.

I wish to make it clear that we are not insistent on our proposal for State construction and Corps rental of the bridge. We made this proposal simply because we thought it would be easier to fit into the Federal budget than pay-as-you-go funding during construction of the bridge. If the committee would prefer to fund the bridge directly on the construction schedule, or appropriate all the funds in 1991, we would certainly not object.

Summary: Our primary concerns are only two:

- First, that construction of the planned bridge be started in calendar 1990 and, along with its approaches, be completed in calendar 1994
- Second, that the bridge and approaches require no net cost to Delaware.

Other considerations are subordinate to these two. Our proposal seemed to us to offer the best prospects of meeting traffic needs with the minimum adverse consequences for all concerned. But I wish to emphasize that we are flexible on specific implementing arrangements.

I am sorry that the timing is short. It was not our intention to press against a short deadline. We thought that the Corps of Engineers would make provision for this project as part of the normal course of events, and it was not until last year that we realized that we were all in a time squeeze.

Delaware is doing its part. We are building the $400 million Relief Route with State funds. We are prepared to finance and construct the new bridge through the Delaware Transportation Trust Fund, and thereby postpone for four years the need for Federal funds. We have done all the planning and design work according to Federal planning, siting, engineering, and environmental standards. All we ask this year is that the Federal Government commit to repay us in the future as we believe is called for by law, equity, and good faith.

I believe that this Committee, that has jurisdiction over appropriations for the C&D Canal,

- recognizes the Federal obligation to the State of Delaware,
- never intended to place this huge obstacle across all north-south highways in Delaware without intending to provide for necessary bridges, and
- will not want the Federal Government to break faith with the State of Delaware

I hope you will help to set the record straight with appropriate action as the State requests.

Thank you.

Attachments:
A. Proposed Appropriations Action

(Submitted separately for the record)
B. The need for Federal Funding, Jan. 29, 1990
C. Legal Documentation
  - Senate Judiciary Committee Memoranda, June 20, 1989,
    Nov. 9, 1989, February 2, 1990
  - Delaware Attorney General Memoranda, Nov 16, 1989

February 22, 1990

TAB A

March 28, 1990

DELAWARE US ROUTE 13 REPLACEMENT ROUTE BRIDGE OVER THE CHESAPEAKE AND DELAWARE Canal

APPROPRIATION

PROPOSED LANGUAGE FOR CORPS OF ENGINEERS APPROPRIATION FOR OPERATION AND MAINTENANCE, 1991, OR FOR ACCOMPANYING REPORT

Funds in this appropriation shall be used to contract with the Department of Transportation of the State of Delaware to lease the Delaware US Route 13 Relief Route Bridge across the Chesapeake and Delaware Canal, and approaches thereto, to be constructed by the Delaware Department of Transportation. Lease payments are to begin upon completion of construction at annual rates sufficient to amortize the cost of construction, including debt service, over a period of 10 years beginning with the first payment, and to cover the cost of operation and maintenance of the bridge.

EXPLANATION

This provides for the Corps of Engineers to lease a highway bridge over the Chesapeake and Delaware Canal that will be built by the Delaware Department of Transportation. Construction is planned to begin in the first quarter of FY 1991, and to be completed in the third quarter of FY 1994.

Only such administrative funds as are necessary to enter into the lease will be obligated in 1991. The lease will be entered into in early FY 1991, before construction is begun on the facilities. Lease payments are expected to begin in the last quarter of FY 1994, at a rate of $20.4 million/year, assuming construction cost of $111.5 million and annual operation and maintenance cost of $0.3 million.

Leasing the facilities upon construction by the Delaware Department of Transportation is the most effective way to provide on schedule a facility that the United States is contractually obligated to provide under the terms of acquisition of the Chesapeake and Delaware Canal Company franchise.

This new bridge will accommodate the traffic of the limited access Delaware US Route 13 Relief Route now under construction by the Delaware Department of Transportation at the cost of $400 million to the Transportation Trust Fund of the State of Delaware. This route has been planned in accordance with FHWA procedures and scheduled to be available at the time the existing route becomes incapable of safely handling the traffic volume without unacceptable delays. The existing 50-year old St. George's bridge is incapable of expansion to safely handle the traffic volume because of obsolescence of design and structure, sharp grades, curvature, and lack of shoulders.

Federally mandated and approved procedures have been followed throughout the planning and design of the Relief Route and the bridge. The final EIS has been filed and approved. The Corps of Engineers, FHWA, Fish and Wildlife Service, and other appropriate Federal agencies have participated in the planning and preparation for all remaining necessary Federal approvals.

The State has agreed to finance and construct the bridge and lease it to the Corps of Engineers at a rate sufficient to cover State costs. This arrangement presents the optimum way of meeting the Federal contractual obligation on schedule without placing immediate peak demands on the Federal budget.

January 29, 1990

DELAWARE U.S. ROUTE 13 RELIEF ROUTE BRIDGE OVER THE CHESAPEAKE AND DELAWARE CANAL

The need for Federal Funding

- The Delaware US Route 13 Relief Route project
  - Is a 46-mile 4-lane limited access highway from Delaware Route 7 to Road 30 south of Dover (partially toll).
  - Includes a new bridge over the C&D Canal funded by the Corps of Engineers (free - non-toll).
  - Will cost $503 million, including $112 million for the bridge.
  - Has been planned by the Delaware Department of Transportation in conjunction with the U.S. Department of Transportation. All environmental planning complete - including final EIS.
  - Has been started at southern end. Bridge will be ready to start construction in 1990.
  - Must be completed as soon as possible to meet traffic demands on U.S. Route 13 corridor, the main north-south route in Delaware, and before the existing St. George's bridge carrying Rt. 13 is partly closed for rehabilitation.
- The Federal Government (Corps of Engineers) is responsible for funding the new bridge because:
  - Original Delaware law chartering C&D Canal Company required company to construct and maintain bridges at its expense, as determined by the State.
  - Federal acquisition of Canal Company franchise and property for the Corps of Engineers in 1919 included acceptance of company legal obligations to the State of Delaware.
  - Specific recognition of Federal responsibility to provide bridges is contained in subsequent Federal law and administrative records, most recently in the Surface Transportation and Uniform Relocation Act of 1987, directing the Corps to review relevant documents to determine how best to provide a new structure for this project.
  - Federal Government has met the contractual obligation to construct and maintain public road bridges continuously since taking over the Canal, through construction and maintenance of two generations of highway bridges with expanded traffic capacity.
- The project, including the new bridge, has not gone through the traditional Corps of Engineers planning process because:
  - In 1984, when Delaware began planning the U.S. Route 13 Relief Route, the Corps had no funds to plan the project and forecast delays of up to 20 years of the traditional Corps process were followed.
  - It is appropriate for the Delaware Department of Transportation and the Federal Highway Administration to conduct the planning on this highway corridor because:
    - -- The U.S. Route 13 Corridor is the primary north-south highway route in the State.
    - -- The Federal bridge is one element in a much more complex State and Peninsula highway traffic problem.

- -- The State is the proper entity to deal with the intra-State technical, economic, and political decisions on location of main highways, siting and design of interchanges, etc.

- We must obtain Federal bridge funding commitment now because:

  - Traffic in the corridor is already backing up unacceptably, and our USDOT-approved projections demonstrate critical traffic increases in the near future requiring more highway lanes of crossing capacity than provided by all existing C&D Canal bridges in Delaware.
  - The new highway is already under construction.
  - The existing Federal St. George's Bridge cannot be modified to handle the traffic of the new highway.
  - The State cannot stand to have half of the present St. George's bridge capacity on Rt. 13 shut down for rehabilitation before the U.S. Route 13 Relief Route bridge is opened.
  - If the State builds the new bridge without Federal commitment to pay its costs, then the longstanding principle of Federal contractual responsibility for highway crossings of the Federal C&D Canal (that cuts the State completely in two) will certainly lapse.

Attachments:
A. Legal background
B. The traffic story - Why the bridge is needed now
C. 1939 Letter
D. Map

January 29, 1989

DELAWARE U.S. ROUTE 13 RELIEF ROUTE
BRIDGE OVER THE CHESAPEAKE & DELAWARE CANAL

The Legal Background For the Federal Obligation

The United States Government is legally obligated to pay the cost of construction and maintenance of a new highway bridge, with its approaches, over the Chesapeake and Delaware Canal. This bridge is an integral part of the ongoing Delaware project to increase the traffic carrying capacity of the U.S. Route 13 corridor, the primary North-South traffic route in the State and the entire DelMarVa Peninsula.

- The original Delaware Charter of the C&D Canal Company required the company to provide bridges at its expense and reserved the right of the State to require the construction of new bridges.

  - The relevant language of the Act of the Delaware Legislature incorporating the Company reads, "...whenever said canal shall cross any public road, it shall be the duty of said company, at the proper expense of the same, to make and keep good and sufficient bridges across the said canal so as to prevent any inconveniences in the usages of said road or roads by reason of said canal crossing the same, and that it shall be lawful for the legislature of this State to enact laws for the erecting and maintaining bridges across said canal, at the expense of the said company...."

- When the Federal Government acquired the Canal Company property for the purpose of enlarging the canal, it assumed the obligations of the Canal Company to the State of Delaware.

  - When the property of the C&D Canal Company was acquired by the Federal Government by condemnation proceedings, the law required acquisition of, "...the existing Chesapeake and Delaware Canal and all the property, rights of property, franchises, and appurtenances used or acquired for use in connection therewith or appertaining thereto...."

- The property acquired by the Federal Government included the bridges built by the Company.

- The franchise acquired by the Federal Government included the obligations to the State assumed by the Company in consideration of its enfranchisement by the State - including the obligation to provide sufficient bridges.

- The obligation was recognized in the legislative history of the acquisition in which Congress imposed the condition that, "all land traffic, both highway and rail, to and from the DelMarVa Peninsula.....could not be broken."

- Federal abandonment of certain existing and authorized C&D Canal crossings in Maryland in 1927 and 1930 was conditioned by law upon advance agreement by Maryland authorities releasing the United States from its obligation to provide the crossings and acceptance of alternative projects in lieu thereof. The legislative background of these actions makes clear that the Federal Government wanted to abandon the crossings but recognized the compelling legal responsibility to provide them. (See Hearings before the Committee on Rivers and Harbors, House of Representatives, 69th Congress, First Session," pp. 39-42.)

- The State of Delaware successfully demonstrated in the legislative history of Acts authorizing the construction of Federal bridges over the C&D Canal, and appropriating funds therefor, that the Federal Government was legally bound to fund the entire cost of bridges and approaches because it assumed the obligations of the Canal Company in 1919. The position of the State was never disputed by the Congress and the full costs were in fact paid by the Federal Government. (See the letter of October 12, 1953, from the Honorable J. Caleb Boggs, Governor of Delaware, to the Honorable Robert T. Stevens, Secretary of the Army, and subsequent provisions of the River and Harbor Act of 1954.)

- The Federal Government recognized its obligation most recently in the Surface Transportation and Uniform Relocation Assistance Act of 1987 wherein the Corps of Engineers was instructed to review the planning done by the State of Delaware along with other reports to determine how best to modify the C&D Canal project to provide a new canal crossing for the Delaware U.S. 13 Relief Route project.

- The Federal Government has paid for C&D all Canal highway bridges for the entire history of the Federal Canal.

  - The Report of the Secretary of War on which authorization of the C&D Canal was based listed the highway bridges necessary to carry public road traffic over the canal, and all those constructed were at full Federal expense.

  - All but one of the original bascule bridges constructed by the Corps of Engineers have been replaced with more modern bridges at full Federal expense, most with added traffic capacity (including 4 new lanes, 2 on each of 2 bridges), pursuant to specific authorizing legislation.

Because the Federal C&D Canal cuts completely across the State of Delaware, and because the primary traffic carried by the Canal both originates and terminates outside the State, it is only fair that the cost of bridging the canal continue to be borne by the Federal Government, at the schedule needed by the State and the entire DelMarVa Peninsula.

It is appropriate that the Federal Government accept the Delaware Department of Transportation planning (including scheduling) as a basis of funding the bridge because the planning has been fully participated in and approved by the U.S. Department of Transportation and other Federal agencies.

- The traffic counts and projections demonstrating the need for additional Canal crossing capacity were done in accordance with the U.S. Department of Transportation procedures.
- The location planning, including selection from among alternative sites, was done in accordance with U.S. Department of Transportation procedures-and approved by the U.S. DOT.
- The environmental planning was done in keeping with National Environmental Policy Act Federally mandated procedures for highway location, with the final Environmental Impact Statement done in cooperation with the Corps of Engineers, the U.S. Environmental Protection Agency, and the U.S. Coast Guard, and approved by the U.S. DOT.
- All engineering design is being done to standards recognized and accepted by the U.S. DOT.

January 29, 1990

DELAWARE U.S. ROUTE 13 RELIEF ROUTE
BRIDGE OVER THE CHESAPEAKE & DELAWARE CANAL

Need for an Additional Bridge

An additional highway bridge crossing the Chesapeake and Delaware Canal near the present St. George's Bridge in Delaware is necessary even if there were no Route 13 Relief Route planned, because total traffic projected for the near future in the major north south traffic corridors cannot be handled by the existing bridges.

- The U.S. Route 13 corridor is the primary north-south route between major Eastern population centers and the Delmarva Peninsula containing parts of 3 states (Del., Md., and Va.).
- The St. George's bridge is the U.S. Route 13 crossing over the Chesapeake and Delaware Canal.
  - The St. George's Bridge carries 33% of the total traffic flow into and out of the Peninsula - 37,300 Average Annual Daily Transits, 17% of which is commercial trucking.
  - It carries as much traffic per lane as the Chesapeake Bay Bridge.
  - It carries over 60% of the total traffic over the C&D Canal.
- The St. George's Bridge will be overloaded after 1994 according to traffic projections deemed valid by the Federal Highway Administration.
  - 1994 traffic is projected at 45,000 AADT (the practical limit of the existing bridge) at a rate of increase well below that actually observed over the last 15 years.
  - Traffic at the St. George's Bridge Site is projected at 70,000 AADT by 2010.
  - These projections were developed under the U.S. DOT-approved process specified for highway planning by the Federal Highway Administration.

The existing St. George's bridge cannot be modified to handle the projected traffic because it is 50 years old, in need of rehabilitation, and not designed to current standards.

  - The steep grade, curvature of the bridge, and lack of shoulders make expansion to move more traffic safely impractical.
  - Basic design of the bridge makes it vulnerable to failure in Canal navigational accidents.
    - Piers supporting the main tied arch span with its fracture critical beam are located in the Canal.
    - Failure of the fracture critical beam would mean loss of the entire structure.

- The Summit Bridge cannot handle the U.S. Route 13 overload because traffic on its Northeast-Southwest corridor will reach bridge capacity in the near future.
  - Summit is located on the most direct route between the Delaware Bay Bridge and the Eastern end of the Chesapeake Bay Bridge.
  - Daily traffic on Summit of 15,000 AADT will increase rapidly when the 4-lane approaches currently under construction are completed in 1991.
  - Summit cannot safely pass the St. George's projected overload after 1994 in addition to its own traffic.
- The additional Delaware bridges over the C&D Canal are unable to handle the U.S. Route 13 overload in any practical manner because of location, approach, and capacity conditions.

The Delaware Department of Transportation, using U.S. DOT-approved traffic planning procedures and National Environmental Policy Act procedures throughout a 5-year planning effort, has determined that the most practical solution to the U.S. Route 13 overload problem is the Relief Route project including the new bridge near the present St. George's Bridge site.

BRIDGE ACROSS THE CHESAPEAKE & DELAWARE CANAL

War Department,
Washington, July 6, 1939.

Hon. Josiah W. Bailey,
Chairman, Committee on Commerce,
United States Senate, Washington, D. C.

Dear Senator Bailey: The Department refers to your letter dated June 9, 1939, enclosing a copy of S. 2574, Seventy-sixth Congress, first session, entitled "A bill authorizing the construction of a highway bridge across the Chesapeake and Delaware Canal at St. Georges, Del.", and requesting such suggestions as may be deemed proper touching the merits of the bill and the propriety of its passage.

On January 10, 1939, the highway bridge spanning the Chesapeake and Delaware Canal at St. Georges, about 15 miles south of Wilmington, Del., was struck and demolished by the steamship *Waukegan*. The Chesapeake and Delaware Canal was purchased by the Federal Government under authority of an act of Congress approved March 2, 1919, and with it the United States assumed the obligation of continuing highway crossings over the canal at various localities. The bridge at St. Georges afforded one of these crossings. It was of the vertical-lift type and provided a two-lane roadway for land traffic. Destruction of this bridge severed communication between the two sections of the town of St. Georges, and it was necessary to provide ferry service.

Senate bill 2574 proposes to authorize and direct the War Department to construct a four-lane high-level fixed highway bridge in replacement of the destroyed bridge. It is estimated that such a bridge with a suitable sidewalk on both sides and affording ample clearances for water traffic can be constructed for not to exceed $2,400,000.

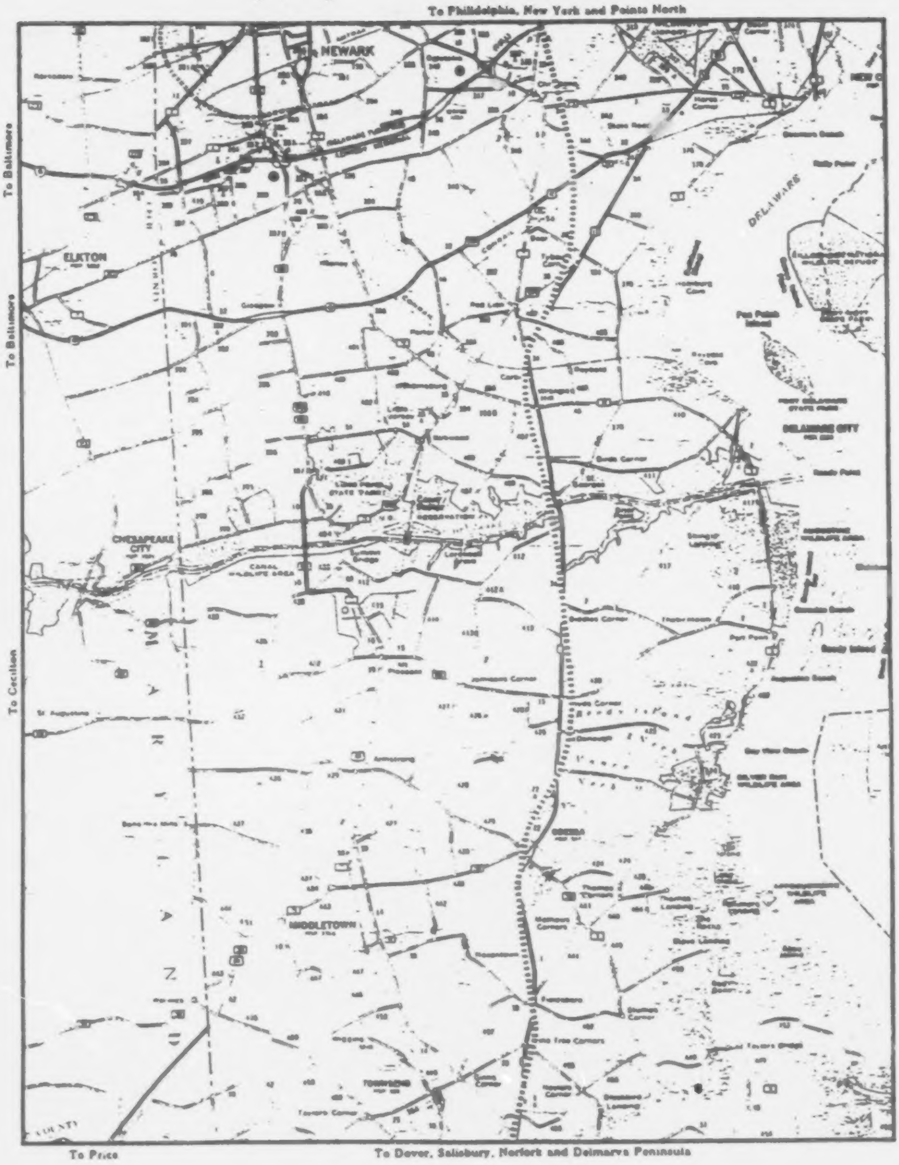
The United States is obligated to maintain reasonably adequate highway crossings over the canal. A four-lane high-level fixed highway bridge would provide such a crossing at St. Georges and I recommend favorable consideration by Congress of S. 2574.

To insure immediate construction of the bridge, a suggested change to the bill has been indicated in red thereon.

The Bureau of the Budget advises that there is no objection to the submission of this report.

Sincerely yours,

Harry H. Woodring,
Secretary of War.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LETTER FROM SENATOR BIDEN

June 23, 1989

The Honorable Robert W. Page
Assistant Secretary
Office of Civil Works
Department of the Army
Washington, D.C. 20310

Dear Mr. Page:

At our meeting of June 13, 1989, we agreed that I would provide you with a legal memorandum on the duty of the Army Corps of Engineers to build and maintain bridges at the St. Georges crossing of the C & D Canal. Enclosed is a memorandum on that issue drafted by the Senate Judiciary Committee staff.

I believe this research makes clear the legal obligation of the corps to improve the existing crossing at St. Georges in the manner proposed by the State of Delaware.

In order to facilitate Congress's timely consideration of our proposal, it is necessary for you to review and comment on the enclosed memorandum as soon as possible.

I thank you in advance for your continued cooperation.

Sincerely,

Joe Biden

Joseph R. Biden, Jr.
Chairman

Enclosure

I. QUESTION PRESENTED

When the United States exercised its powers of eminent domain to acquire the property, rights of property, franchises, and appurtenances of the Chesapeake and Delaware Canal in 1919, did the federal government become obligated to maintain adequate crossings over the canal?

II. SUMMARY OF ARGUMENT

- The property transferred to the United States as a result of condemnation proceedings initiated to acquire the C & D Canal included not merely the waterway itself, but also the franchise obligation to maintain adequate crossings over the canal.

- In testimony given to Congress at the time the original plan for renovating the canal was implemented, the Chief of the Army Corps of Engineers unequivocally stated that, as a result of these historical obligations, the United States had become legally bound to maintain adequate canal crossings.

- The bridges maintained by the United States must be sufficient to handle the flow of traffic produced by the highways they service.

- Efforts by the Corps of Engineers to evade its obligation to maintain adequate crossings over the canal have been turned back in the past.

- Considerations of fairness require the United States to abide by the 160-year-old precedent that has obligated each operator of the canal to maintain adequate crossings.

III. STATEMENT OF FACTS

By an Act of the General Assembly of Delaware dated January 28, 1801, the Chesapeake and Delaware Canal Company was chartered to build and operate a canal between the Delaware River and Chesapeake Bay. In exchange for the right to operate the proposed canal, including the right to collect tolls for its use, the C & D Canal Company became obligated to maintain canal crossings.

In 1919, the United States excercised its powers of eminent domain to take possession of the C & D Canal. As a result, the obligations that the State of Delaware had imposed upon the C & D Canal Company in 1801 were transferred to the new owner of the canal -- the United States.

The portion of the 1801 Act setting forth the obligation of the C & D Canal Company to maintain adequate crossings over the canal states:

> That whenever said canal shall cross any public road, it shall be the duty of said company, at the proper expence of the same, to make and keep good and sufficient bridges across the said canal, so as to prevent any inconvenience, in the usage of said road or roads by reason of said canal crossing the same.... (Emphasis added.)

IV. ARGUMENT

A. The property transferred to the United States as a result of condemnation proceedings initiated to acquire the C & D Canal included not merely the waterway itself, but also the franchise obligation to maintain adequate crossings over the canal.

The documents governing the obligations incurred by the United States when it takes property pursuant to its powers of eminent domain are: (1) the judicially approved petition for condemnation; and (2) the legislation appropriating the funds necessary to compensate the owners of the condemned property. Commissioners of Highways v. United States, 466 F. Supp. 745 (N.D. Ill. 1979), aff'd in part and rev'd in part, 653 F.2d 292 (7th Cir. 1981). In the case of the condemnation of the C & D Canal, the relevant documents clearly state that in addition to acquiring the physical assets of the waterway, the United States also took possession of the longstanding franchise obligations governing the canal.

1. The Controlling Language

In an Act of Congress approved August 8, 1917, entitled "An Act Making Appropriations for the Construction, Repair and Preservation of Certain Public Works on Rivers and Harbors" (the 1917 Appropriations Bill), Congress authorized the Secretary of War to begin negotiating a contract for the purchase of the C & D Canal. In the event these negotiations proved unsuccessful, the Secretary of War was authorized to initiate condemnation proceedings for the canal. Two years later, after contract negotiations had reached an impasse, a second appropriations bill (the 1919 Appropriations Bill) provided $2,514,289 to be paid as compensation for the taking of the canal.

Each of these appropriations bills identified the property being condemned as follows:

> the existing Chesapeake and Delaware Canal, and all the property, rights of property, **franchises and appurtenances** used or acquired for use in connection therewith or appertaining thereto. (Emphasis added.)

The petition for condemnation filed by the United States embodied terms that had been agreed to by the private owners of the canal, and was uncontested. On August 8, 1919, after a pro forma oral argument and a jury verdict ratifying the negotiated price for just compensation, the United States District Court for the District of Delaware approved the United States' condemnation petition.

The second paragraph of the United States' petition begins with the descriptive language quoted above. Because the petition was filed prior to the enactment of the 1919 Appropriations Bill, the language identifying the condemned property was attributed only to the Appropriations Bill of 1917. The United States Attorney for Deleware recognized, however, that the 1919 Act, and the accompanying description of the property to be condemned, were sufficiently important to merit an amendment to the original petition. Accordingly, Congress' description of the condemned property, referring to the franchises pertaining to the canal, was included for a second time in the United States' petition. Clearly, the United States understood that the property it was condemning included the franchise obligations governing the canal.

The United States acknowledged that its understanding was shared by the Delaware legislature. In the sixth paragraph of its petition, the United States set forth the following language from a Delaware Law approved on March 26, 1909:

> That the consent of the [Delaware] Legislature be and the same is hereby given to the acquisition by the United States of the title to the lands, easements and franchises of the Chesapeake and Delaware Canal Company. (Emphasis added.)

2. Supreme Court Precedent

The significance of these repeated references to the United States' acquisition of the C & D Canal franchise were not lost on the interested parties. A contemporary Supreme Court case involving the United States' condemnation of a lock and dam in Pennsylvania, Monongahela Navigation Company v. United States, 148 U.S. 312 (1892), addressed the very issue of condemning property with accompanying franchise rights. In rejecting the United States' argument that a condemnation proceeding could be used to sever a franchise from the physical property it governs, the Court stated:

> The theory of the government seems to be, that the right of the Navigation Company to have its property in the river, and the franchises given by the State to take tolls for the use thereof, are conditional only, and that whenever the government, in the excercise of its supreme power, assumes control of the river, it destroys both the right of the company to have its property there, and the franchise to take tolls. But this is a misconception. **The franchise is a vested right.**

148 U.S. 312 at 341 (emphasis added).

B. In testimony given to Congress at the time the original plan for renovating the canal was implemented, the Chief of the Army Corps of Engineers unequivocally stated that the United States had become legally bound to maintain adequate crossings over the canal.

In an exchange with members of the House Committee on Rivers and Harbors at a 1926 hearing, Major General Harry Taylor, Chief of the Army Corps of Engineers, acknowledged that the Corps was legally bound to maintain crossings over the C & D Canal. The following portions of General Taylor's testimony concern the United States' obligation to build a bridge over the C & D Canal at a crossing in Maryland. Maryland officials had agreed to release the Corps of Engineers from its obligation in exchange for newly built roads that would connect a highway to a nearby bridge already in existence. In order to explain the basis for this quid pro quo, General Taylor attested to the legal force behind the United States' duty to build bridges over the canal. His comments are remarkable for both their candor and their pertinence to the issue addressed by this memorandum.

> THE CHAIRMAN. At any rate, the people of the vicinity are absolutely satisfied and they make this bargain to release the Government by its doing this work instead of rebuilding the bridge?
>
> MR. McDUFFIE (a committee member). Somebody might ask, "Why is the Government in duty bound to do this work?
>
> THE CHAIRMAN. I asked that legal question to begin with. I said, "Then, it is the established law and the establshed practice of the Government, where it is deepening a stream and there are bridges over the stream as it is when the Government takes it and deepens it and necessitates rebuilding of the bridges, that the Government must rebuild those bridges?"
>
> GENERAL TAYLOR. May I make a little correction there? This was not a case of a bridge over a natural stream, but a bridge over the Chesapeake & Delaware Canal, and where the bridge was built was originally fast land. There was no water at all until the canal went through there. But the road was there even before the Chesapeake & Delaware Canal was built, so that the private canal, as it was before we took it over, had to build the original bridge. It was fast land, and they dug this cut through fast land, and they were obliged to build the original bridge, and we took over all their obligations. So we are obliged to build a new bridge.
>
> * * * * *
>
> MR. McDUFFIE. What would happen if the Government refused to build the bridge?
>
> GENERAL TAYLOR. The Government would be sued and would be forced by the courts to build it.
>
> THE CHAIRMAN. Either mandamused, or they would get a judgment for the amount.
>
> GENERAL TAYLOR. Yes, sir.
>
> MR. McDUFFIE. In other words, there is no way of our getting out of building it.
>
> GENERAL TAYLOR. Absolutely none.

Hearings on H.R. 11176 Before the House Committee on Rivers and Harbors, March 1926, at pp. 40-42.

General Taylor's first comment followed a question by the Chairman concerning the existence of a generalized legal obligation on the part of the United States to rebuild bridges damaged or destroyed by federal construction projects. General Taylor felt compelled to correct the premise for the Chairman's question. Instead of basing his statement on an established regulation generally applicable to all situations like the one in question, General Taylor pointedly referred to the nexus between the specific obligations of the C & D Canal Company and those acquired by the United States.

The dialogue on this point between General Taylor and the committee concluded with the following exchange:

GENERAL TAYLOR. There is another bridge being built, and we built about a mile and a half of road on each side to get to this bridge. I contended for a long time that the bridges were so close together that there was no necessity for this bridge, but, unfortunately, I didn't have any legal basis to stand on.

THE CHAIRMAN. To use an ordinary expression, which we hear frequently, they "had the law on you?"

GENERAL TAYLOR. Yes, sir; they had the law on us.

The "law" that the people of Maryland "had on" the Army Corps of Engineers was a Maryland statute chartering the C & D Canal Company that was virtually identical to that enacted by the State of Delaware. It must be noted that the individual advancing this argument was not the Attorney General for the State of Maryland, nor any other advocate seeking to hold the United States responsible for the funding of bridges over the C & D Canal. At the time of his testimony, General Taylor was the Chief of the Army Corps of Engineers, the very entity responsible for carrying out the federal government's obligation to build and maintain bridges.

The hearing from which the above testimony was quoted was held in 1926. General Taylor's interpretation of the United States' responsibilities took place just seven years after the condemnation proceedings -- in close enough proximity to have the original intent of the federal government fresh in the minds of the interested parties. The source of the obligations being discussed was much older: a 125-year-old statute enacted in 1801. The rationale understood by the Chief of the Corps of Engineers as the basis for the United States' recently acquired obligations was not temporally limited. It is as relevant today as it was in 1926.

C. The bridges maintained by the United States must be sufficient to handle the flow of traffic produced by the highways they service.

General Taylor's testimony addressed more than the question of whether the United States acquired obligations as a result of its condemnation of the canal. By identifying the source of those obligations, the testimony provided by General Taylor defined their scope as well.

When asked about the legal obligations binding upon the United States, General Taylor replied: "[The C & D Canal Company was] obliged to build the original bridge, and we took over **all their obligations**. So we are obliged to build a new bridge." (Emphasis added.) Primary among the obligations set forth in the Delaware Law of 1801 granting the company its charter was the duty "to make and keep good and **sufficient bridges across the said canal, so as to prevent any inconvenience, in the usage of said road or roads.**" (Emphasis added.) Clearly, the United States' obligations with regard to canal crossings include the duty to maintain bridges that match the demands created by the highways and localities at the places where crossings of the canal previously existed.

The extent of the United States' obligation to maintain adequate crossings became evident in a dispute between Governor Boggs of Delaware and the Chief of the Army Corps of Engineers during the review of the Corps' plans to renovate the canal in 1954. The State of Delaware contended that the federal government was responsible for the funding of bridge approaches that connected existing highways. The Corps of Engineers asserted that this responsibility was Delaware's.

In support of his position, Governor Boggs sent a letter to the Secretary of the Army in which he quoted the statutory language -- "to make and keep good and sufficient bridges...to prevent any inconvenience" -- that is the source of the United States' obligation to maintain adequate crossings over the C & D Canal.

In the River and Harbor Act of 1954, Congress required the Corps of Engineers to build the disputed bridge approaches. To do less would fall short of the United States' legal obligation acquired at the time of the condemnation. Likewise, failure to expand the capacity of an existing bridge, so that it is sufficient to carry the traffic produced by the state's highways, also would constitute a breach of the United States' duty to build and maintain "sufficient bridges...to prevent any inconvenience in the usage of said road or roads."

In the past, the Corps of Engineers has taken into account the need to alleviate highway traffic congestion when deciding whether to build new bridges. In a section of his report identifying the benefits of the proposed 1954 renovation project, the Corps' District Engineer stated:

> The provision of fixed-span high-level bridges for the highway crossings at Reedy Point and at Summit, as proposed, would eliminate the delays to vehicular traffic that are imposed when lift-span bridges are opened to vessel movements.

Report of the District Engineer, Senate Rep. 123, 83rd Congress, May 19, 1954, at 29.

D. Efforts by the Corps of Engineers to evade its obligation to maintain adequate crossings over the canal have been turned back in the past.

In less than three decades, General Taylor's successors at the Corps of Engineers developed a changed attitude to the United States' obligation to maintain crossings over the C & D Canal. Studies for the improvement of the canal conducted by the Corps of Engineers in the early 1950's indicated that the leaders of the Corps had lost much of their predecessor's sensitivity to the significance of the obligations acquired by the United States. This became most apparent with regard to the rebuilding of a bridge at Reedy Point, Delaware.

By 1953, the Corps of Engineers had developed new plans to widen, deepen and generally improve the canal. If the canal crossing at Reedy Point were to be maintained after this proposed construction, the existing draw bridge would have to be replaced by a high-level fixed bridge. Among the plans proposed by the Corps was the option of eliminating the crossing at Reedy Point and providing connecting roads to the St. Georges bridge from the highways that had been serviced by the bridge at Reedy Point.

In a letter from the Under Secretary of Commerce, the Assistant Chief of the Army Corps of Engineers was reminded that elimination of the crossing at Reedy Point would violate legal obligations acquired by the United States at the time the canal was condemned:

> With regard to the Reedy Point Bridge, however, the Chief of Engineers states that it is not considered that the cost of a new high-level bridge can be justified by the needs of traffic nor of the locality and recommends that at the time of construction of the project consideration be given to provide more economical alternate facilities to meet the needs of the Reedy Point area....While we concur in the recommendations of the Chief of Engineers concerning the Reedy Point Bridge attention is called to the fact that **when the Federal Government originally acquired the Chesapeake and Delaware Canals from private ownership it took over all the property, rights of propety, franchises, and appurtenances which included the bridges at Reedy Point, St. Georges, and Summit in the State of Delaware and thus the Federal Government is legally obligated to provide crossings of the canal at the location of the original bridges.**

Comments of the Department of Commerce, Senate Doc. 123, 83rd Congress, May 19, 1954, at XX (emphasis added).

Despite the ultimate recommendation of the Corps of Engineers to explore the option of eliminating the Reedy Point bridge, the Corps itself had acknowleged its duty to maintain an adequate crossing at Reedy Point. The 1950 report of the Corps' District Engineer stated:

> Recognizing certain rights of the public to highway crossings at Reedy Point and Summit, the United States bore the entire cost of constructing bridges at these points when the canal was converted to a sea-level waterway, and subsequently has borne the entire cost of their operation and maintenance. The rights of the public to these crossings are as valid at this time as when the existing bridges were constructed; their continuance appears to be warranted by the volume and importance of the traffic that they carry.

Report of the District Engineer, Senate Doc. 123, 83rd Congress, May 19, 1954, at 34.

In the River and Harbor Act of 1954, Congress provided the funding necessary to build a new high-level bridge at Reedy Point and the bridge was constructed by the Corps of Engineers.

B. Considerations of fairness require the United States to abide by the 160-year-old precedent that has obligated each operator of the canal to maintain adequate crossings.

The original C & D Canal was completed in 1829. As General Taylor remarked, the canal was cut through "fast land" -- land where no waterway previously existed. To preserve the important north-south arteries, that even then carried traffic crucial to the commerce and recreation of the State, the Delaware Legislature had the foresight to subordinate the interests of the canal to those of land traffic.

Today, Delaware's highway system plays an even more critical role in the life of the State, while the federally operated canal provides no significant independent benefit for the people of Delaware. Nonetheless, the canal does serve national transportation interests and the federal government chooses to continue operating it for that reason.

Every operator of the canal has borne the justifiable burden of maintaining bridges so that Delaware's land traffic would not be obstructed. The fairness of having the United States incur this obligation is now more apparent than ever; the alternative would require the State of Delaware to spend large sums of money for bridges that cross a canal from which it receives little benefit.

MEMORANDUM FROM SCOTT SCHELL, COUNSEL, COMMITTEE ON THE JUDICIARY, U.S. SENATE

MEMORANDUM

TO: Senator Joseph R. Biden, Jr., Chairman
FROM: Scott Schell, Counsel
DATE: November 9, 1989
RE: St. Georges Bridge

In response to Senator Biden's instructions, the Senate Judiciary Committee staff prepared a memorandum examining the legal basis for the United States' obligations regarding the C & D Canal. That memorandum, transmitted to the Army on June 23, 1989, concludes that the United States is bound by the same obligations as its predecessor, the C & D Canal Company.

On July 20, 1989, the Assistant Secretary of the Army transmitted to Senator Biden a memorandum of the General Counsel of the Army that argues against the conclusion reached in the Judiciary Committee's memorandum.

The following sets forth the Judiciary Committee staff's review of the Army's memorandum and a further discussion of the legal background of the case.

I. SUMMARY

The law enacted in 1801 by the State of Delaware that chartered the C & D Canal Company established binding contractual obligations. Those obligations are defined by the language of the charter. The Supreme Court has long recognized the validity of contractual obligations growing out of corporate charters.

In a case decided in 1923 by the United States District Court for the District of Delaware, the court decided that the United States is bound by obligations originating in the charter of the C & D Canal Company. The court reasoned that the United States' condemnation of the C & D Canal Company neither invalidated the 1801 charter, nor rescinded the obligations it established. Today, these same contractual obligations continue to bind the United States.

By wrongly defining the issue to be addressed, the Army's memorandum is limited to a discussion of the duties imposed upon the Army Corps of Engineers by authorizing legislation. The Army ignores the source of the United States' contractual obligations -- the Delaware law chartering the C & D Canal Company. Because the Army looks in the wrong place for its answer, its memorandum is limited to asking and answering questions that can lead only to inaccurate or irrelevant conclusions.

II. DISCUSSION

A. THE UNITED STATES IS BOUND BY A CONTRACTUAL OBLIGATION TO MAINTAIN GOOD AND SUFFICIENT BRIDGES OVER THE C & D CANAL

The charter of the C & D Canal Company established contractual obligations that were binding upon the canal company and that continue to bind the United States. This position is supported by both the language of the charter and Supreme Court precedent -- the most authoritative factual and legal sources relevant to this matter.

1. THE DELAWARE LAW CHARTERING THE C & D CANAL COMPANY WAS BASED UPON A MUTUAL EXCHANGE OF RIGHTS AND OBLIGATIONS AND CONSTITUTES A CONTRACT.

In 1801, the State of Delaware chartered the C & D Canal Company and authorized the chartered corporation to construct a canal crossing the state. This written grant formalized a contractual relationship. At the core of this relationship was an exchange of consideration -- the quid pro quo that is the basis of all contracts.

The State of Delaware granted to the C & D Canal Company the charter that allowed the corporation's existence, the real estate necessary for construction of the canal, and the right to collect state-regulated tolls for the canal's use. In exchange for this grant, the C & D Canal Company constructed the canal and was obligated to maintain it in good repair.

The State of Delaware obtained only one significant, independent interest in the canal project. The C & D Canal completely separates northern and southern Delaware. To overcome this interference with the commerce of the state, the charter obligated the C & D Canal Company

> "to make and keep good and sufficient bridges across the said canal, so as to prevent any inconvenience, in the usage of said road or roads by reason of said canal crossing the same." (Act of the General Assembly of Delaware, January 29, 1801 (Laws of Delaware, Vol. III, 170, 185).)

By the express terms of the written charter, the operator of the canal was made responsible for preserving the unimpeded flow of the state's important north-south land traffic.

Any doubt as to the binding nature of this obligation imposed upon the operator of the canal is erased by the enforcement provision set forth in the Delaware law. That provision makes the operator of the canal responsible for funding the construction of bridges deemed necessary by the state as long as the canal is in existence:

> "[I]t shall be lawful for the Legislature of the State, at all times hereafter, to enact laws for the erecting and maintaining bridges across the said canal, at the expence [sic] of the said company, and to subject the said company to forfeitures, pains and penalties for not complying with such laws." (Id. at 185.)

2. THE SUPREME COURT HAS HELD ON NUMEROUS OCCASIONS THAT THE GRANT OF A CORPORATE CHARTER BY A STATE GIVES RISE TO CONTRACTUAL OBLIGATIONS.

Dartmouth College v. Woodward, 4 Wheat. 518 (1819), is a landmark case in which Chief Justice John Marshall interpreted the "contract clause" of the Constitution. (United States Constitution, Art. I, Sec. 10, cl. 1.) The case involved a corporate charter granted to Dartmouth College. Before discussing whether the contract clause of the Constitution was applicable to the case at hand, Chief Justice Marshall first held that the charters of private corporations are, indeed, to be considered contracts:

> "It can require no argument to prove, that the circumstances of this case constitute a contract. An application is made to the [state] for a charter to incorporate a religious and literary institution. In the application, it is stated that large contributions have been made for the object, which will be conferred on the corporation, as soon as it shall be created. The charter is granted, and on its faith the property is conveyed. Surely in this transaction every ingredient of a complete and legitimate contract is to be found." (Id. at 627.)

The Supreme Court attested to the significance of the holding of Dartmouth College in The Binghamton Bridge, 3 Wall. 51 (1865). This case involved a charter of the State of New York incorporating a company to build a tollbridge and take tolls fixed by the charter. The case considered the binding effect of the charter's prohibition against the construction of any bridge within two miles either above or below the chartered bridge. In upholding the validity of the prohibition, the Court relied upon Dartmouth College:

> "We have supposed, if anything was settled by an unbroken course of decisions in the Federal and State courts, it was, that an act of incorporation was a contract between the State and the stockholders. All courts at this day are estopped from questioning the doctrine....An attempt even to reaffirm it, could only tend to lessen its force and obligation. It received its ablest exposition in the case of Dartmouth College v. Woodward, which case has ever since been considered a landmark by the profession, and no court has since disregarded the doctrine, that the charters of private corporations are contracts." (Id. at 73.)

The relationship between the State of Delaware and the C & D Canal Company, and the consideration exchanged by each party, are called to mind by the Supreme Court's description of the charter at issue in The Binghamton Bridge:

> "The legislature, therefore, says to public-spirited citizens: "If you will embark, with your time, money, and skill, in an enterprise which will accomodate the public necessities, we will grant to you, for a limited period, or in perpetuity, privileges that will justify the expenditure of your money, and the employment of your time and skill." Such a grant is a contract, with mutual considerations, and justice and good policy alike require that the protection of the law should be assured to it." (Id. at 74.)

B. THE CONTRACTUAL OBLIGATIONS ESTABLISHED BY THE CHARTER OF THE C & D CANAL COMPANY HAVE AS MUCH FORCE TODAY AS WHEN THEY WERE FIRST CREATED.

1. THE OBLIGATION TO BUILD AND MAINTAIN BRIDGES OVER THE C & D CANAL HAS NOT BEEN RESCINDED.

The State of Delaware has never invalidated the law allowing for the construction and operation of the C & D Canal. Until such legislative action is taken, or a similar circumstance arises that abrogates the obligations established by the charter, those duties continue to exist with full force.

In Dartmouth College, Chief Justice Marshall, referring to the corporate charter granted to the college, provided the following question and answer:

> "What has since occurred to strip it of its inviolability? Circumstances have not changed it. In reason, in justice, and in law, it is now what it was in 1769." (4 Wheat. at 643.)

Chief Justice Marshall decided that the validity of the charter and the obligations it imposed remained unchanged. The decision was reached notwithstanding the presence of circumstances that differed significantly from those existing at the time the corporate charter in question was granted: fifty years had passed, the Revolutionary War had been fought, New Hampshire had been transformed from a colony to one of the states in a previously non-existent republic, and, of greatest concern in the case before Chief Justice Marshall, the original parties to the charter had been replaced by successors.

The charter in Dartmouth College, established in 1769, recorded the contractual relationship between the donors of the college, on the one hand, and the British Crown, on the other. The adversaries in the case before the Supreme Court were the State of New Hampshire, as the successor to the Crown and Government of Great Britain, and the trustees of the college, as successors to the donors. The Supreme Court found that the contractual relationship continued in force between these successors in interest.

Although many years have passed since the State of Delaware chartered the C & D Canal Company and enacted the law governing the operation of the canal, the circumstances concerning the canal have changed very little. The canal continues to be operated at roughly the same location where it was initially constructed. The continued unimpeded flow of land traffic over the canal is of greater and more pressing concern to the state today than it was in 1801. And Delaware continues to have an interest in enforcing the obligations owed by the operator of the canal to the people of the state. Only the operator of the canal has changed. This neither justifies nor requires the invalidation of the contractual duties established by the charter.

2. A FEDERAL COURT HAS HELD THAT THE UNITED STATES IS BOUND BY THE OBLIGATIONS OF THE C & D CANAL COMPANY.

Delaware Railroad Company v. Weeks, 293 F. 114 (Del. 1923), concerned a railroad bridge over the C & D Canal that was going to be destroyed as a result of the United States' plan to improve and enlarge the canal. The Delaware Railroad Company, the owner of the bridge, had been chartered by the State of Delaware in 1836 and had been granted a right-of-way over the canal. At issue was "whether the [railroad was] divested of that interest [in a bridge] by the condemnation proceedings through which the United States acquired title to the canal properties." (Id. at 117.)

The railroad claimed that, like the C & D Canal Company, the United States was obligated to honor the interests of the railroad. The United States District Court for the District of Delaware agreed:

> "Title to the property of the Chesapeake & Delaware Canal Company was acquired in 1919 by condemnation proceedings had in this court....The answer of the [United States] seems to indicate the [United States'] position to be that the railroad company was divested of its right of way by the condemnation proceedings....I...hold...that the United States acquired the canal property subject to the burthen of the railroad and that, merely as owner, the rights of the United States in the canal property are with respect to the bridge, its piers and abutments not greater than or different from those of the canal company during its ownership. (Id. at 119.)

In effect, the Delaware District Court had been presented with the same question faced by Chief Justice Marshall: "What has since occurred to strip [the charter] of its inviolability?" The answer: nothing.

The same reasoning of Chief Justice Marshall and the Delaware District Court is applicable here. Nothing has changed to alter the obligations of the C & D Canal Company or its successor. Just like the Delaware District Court decided that the United States' condemnation of the C & D Canal Company neither invalidated the charter, nor rescinded the obligations it established, so, too, the United States remains obligated today to maintain good and sufficient bridges across the canal. "In reason, in justice, and in law, [the charter] is now what it was in [1801]."

C. THE ARGUMENTS SET FORTH IN THE MEMORANDUM OF THE GENERAL COUNSEL OF THE ARMY ARE WRONG AND IGNORE THE BASIS OF THE UNITED STATES' OBLIGATION.

The Army's arguments lack credibility. First, by wrongly defining the issue to be addressed, the Army's memorandum is limited to asking and answering questions that can lead only to inaccurate or irrelevant conclusions. Second, the Army ignores the very source of the United States' contractual obligations. Third, the Army's erroneous approach results in a mischaracterization of the testimony of General Taylor, the Chief of the Army Corps of Engineers -- arguably the most significant legislative history concerning this matter.

1. THE ARMY WRONGLY DEFINES THE ISSUE AT HAND.

The Army has defined the issue as "whether the Federal Government is obligated...by virtue of the legislation authorizing the purchase and improvement of the original C & D Canal," (Army Mem. at 1), and has concluded that the authorizing legislation imposed no general obligation on the United States to build bridges across the canal. Put simply, the Army has answered the wrong question.

The Army has ignored the question of the continued validity of the charter of the C & D Canal Company. The possibility that the obligations set forth in the charter are now binding upon the United States is not considered. The Army never addresses the effect of the condemnation proceedings on the obligations owed by the canal company to the people of Delaware. Rather than contradicting the position set forth in this memorandum, the Army's argument is unresponsive.

2. THE ARMY'S EXCLUSIVE RELIANCE ON AUTHORIZING LEGISLATION IGNORES THE SOURCE OF THE UNITED STATES' CONTRACTUAL OBLIGATIONS.

The fact that the United States is obligated to provide canal crossings is completely independent of the question of whether the Army Corps has been directed by Congress to be the agent for exercising some or all of this federal obligation. Rather than limiting the extent of the United States' obligations, the authorizing legislation merely executes, in part, the pre-existing obligations of the C & D Canal Company that were transferred to the United States.

Even if the Army's interpretation of the authorizing legislation were correct, that interpretation would not require the conclusion reached by the Army. As the United States District Court indicated in Delaware Railroad Company v. Weeks, the source of the United States' obligation to build bridges across the canal is the canal company charter -- not authorizing legislation. The extent of the United States' obligation is defined by the charter. In its authorizing legislation, Congress has directed the Army Corps, as the agent of the United States, to partially implement an underlying contractual obligation of the United States. An examination of the relevant authorizing legislation will reveal only those specific tasks that have been discharged by the Army Corps of Engineers in the past. To answer the question of the scope of the United States' obligation, for purposes of determining what is necessary for future compliance, the charter is controlling.

3. THE ARMY MISCHARACTERIZES THE TESTIMONY OF GENERAL TAYLOR.

In an exchange with members of the House Committee on Rivers and Harbors at a 1926 hearing, Major General Harry Taylor, Chief of the Army Corps of Engineers, testified that the United States was contractually obligated to maintain crossings over the C & D Canal.

At issue was whether Congress should authorize the Corps to construct certain roads in lieu of building a bridge over the canal. General Taylor testified that the authorization of the roads was necessary in order for the Army Corps to comply with an agreement that had been entered into with local authorities. According to the agreement, the local government would release the United States from its obligation to build the bridge in exchange for the construction of the specified roads.

The memorandum of the Army acknowledges the United States' obligation to construct the bridge in question. However, according to the Army, the source of the United States' obligation is congressional authorizing legislation. While consistent with the general theory of the Army's memorandum, this conclusion is not supported by General Taylor's testimony. That testimony clearly identifies the obligation of the C & D Canal Company as the source of the United States' duty to build the bridge:

> THE CHAIRMAN. At any rate, the people of the vicinity are absolutely satisfied and they make this bargain to relaease the Government by its doing this work instead of rebuilding the bridge?
>
> MR. McDUFFIE (a committee member). Somebody might ask, "Why is the Government in duty bound to do this work?
>
> THE CHAIRMAN. I asked that legal question to begin with. I said, "Then, it is the established law and the established practice of the Government, where it is deepening a stream and there are bridges over the stream as it is when the Government takes it and deepens it and necessitates rebuilding of the bridges, that the Government must rebuild those bridges?"
>
> GENERAL TAYLOR. May I make a little correction there? This was not a case of a bridge over a natural stream, but a bridge over the Chesapeake & Delaware Canal, and where the bridge was built was originally fast land....[T]he private canal, as it was before we took it over, had to build the original bridge. It was fast land, and they dug this cut through fast land, and they were obliged to build the original bridge, and we took over all their obligations. So we are obliged to build a new bridge.
>
> * * * * *
>
> MR. McDUFFIE. What would happen if the government refused to build the bridge?
>
> GENERAL TAYLOR. The Government would be sued and would be forced by the courts to build it.

(Hearings on H.R. 11176 Before the Committee on Rivers and Harbors, 69th Cong., 1st Sess. 40-42 (1926).)

The Army's claim that "when General Taylor's complete statement is examined, it becomes clear that the basis of the obligation to build the...bridge was the 1917 authorization," (Army Mem. at 5), is clearly erroneous. Nowhere in General Taylor's testimony did he say that the United States' obligation was derived from an authorizing bill. General Taylor unequivocally stated: "[The C & D Canal Company was] obliged to build the original bridge, and [the United States] took over all their obligations. So [the United States is] obliged to build a new bridge."

In addition, General Taylor testified that this obligation of the United States was enforceable in court. The possibility of a lawsuit requiring construction of the bridge in question was the reason the Army Corps felt compelled to obtain an agreement absolving the United States of any responsibility for building the bridge. Congress subsequently authorized the roads and, by the same law, conditioned their construction on the execution by local authorities of a waiver of the federal obligation to build the bridge.

The mere presence of legislation authorizing the Army Corps to undertake a construction project does not create a right in local authorities to compel the completion of that project through a lawsuit. Only a pre-existing contractual obligation could give rise to the judicial remedy identified by General Taylor. If the Army's position is adopted, and the description of projects in authorizing legislation provides the basis for lawsuits by local governments, then the United States would be subject to extensive liabilities that have no precedent in the law.

General Taylor's testimony supports the position that the United States is bound by contractual obligations that originated with the charter of the C & D Canal Company and continued in effect after the United States acquired that company in 1919.

D. THE UNITED STATES HAS TRIED AND FAILED TO EVADE ITS OBLIGATION CONCERNING THE C & D CANAL IN THE PAST.

In 1953, the Corps of Engineers developed a plan to improve the C & D Canal that would require the destruction of a bridge at Reedy Point, Delaware. The Army Corps had suggested to Congress that the Reedy Point bridge be eliminated because the cost of rebuilding the bridge could not be justified by the traffic needs at that location. Despite this proposal, the United States ultimately was compelled to build the bridge and the funding was provided. In this case, the contractual obligations binding the United States clearly trumped any authorizing legislation.

According to the Army's memorandum, the United States was under no obligation to rebuild the Reedy Point bridge a second time. The Army argues that the original project authorization defined the extent of the United States' responsibilities with regard to the canal, and "the original project authorization provided limited authority to rebuild, on a one-time basis, seven bridges." (Army Mem. at 4.)

The Army's position is contradicted by the following letter from the Under Secretary of Commerce to the Assistant Chief of the Army Corps of Engineers:

> While we concur in the recommendation of the Chief of Engineers concerning the Reedy Point Bridge attention is called to the fact that when the Federal Government originally acquired the Chesapeake and Delaware Canals from private ownership it took over all the property, rights of property, franchises, and appurtenances which included the bridges at Reedy Point, St. Georges, and Summit in the State of Delaware and thus the Federal Government is legally obligated to provide crossings of the canal at the location of the original bridges. (Sen. Doc. No. 123, 83rd Cong., 2d Sess. 20 (1954).)

Clearly, there was no discretion in the decision to build the bridge at Reedy Point. The Army Corps had recommended against building the bridge. Funding for the bridge was perceived to be an unnecessary federal expenditure. Yet the authorization and the funds were provided, and the bridge was built.

Because the obligations originating in the charter of the C & D Canal Company continue to bind the United States, the Under Secretary of Commerce properly concluded that, "the Federal Government is legally obligated to provide crossings of the canal at the location of the original bridges."

E. THE UNITED STATES' OBLIGATION TO MAINTAIN GOOD AND SUFFICIENT BRIDGES PERTAINS TO THE CANAL CROSSING AT ST. GEORGES.

In a letter dated July 6, 1939 from Harry H. Woodring, Secretary of War, to the Chairman of the Senate Commerce Committee, Mr. Woodring responded to a request for comments on the propriety of a proposed bill authorizing the construction of a new highway bridge across the C & D Canal at St. Georges.

Mr. Woodring recommended passage of the bill and construction of the bridge. He asserted that the "United States is obligated to maintain reasonably adequate highway crossings over the canal." His letter states, in part:

> "On January 10, 1939, the highway bridge spanning the Chesapeake and Delaware Canal at St. Georges...was struck and demolished by the steamship Waukegan. The Chesapeake and Delaware Canal was purchased by the Federal Government under authority of an act of Congress approved March 2, 1919, and with it the United States assumed the obligation of continuing highway crossings over the canal at various localities. The bridge at St. Georges afforded one of these crossings...
>
> The United States is obligated to maintain reasonably adequate highway crossings over the canal. A four-lane high-level fixed highway bridge would provide such a crossing at St. Georges and I recommend favorable consideration by Congress of S.2574."

STATEMENT OF MICHAEL F. FOSTER, DELAWARE STATE SOLICITOR,

The Honorable Michael N. Castle
Governor of the State of Delaware
Carvel State Office Building
820 North French Street
Wilmington, DE 19801

Re: Obligation of the United States Department of the Army, Corps of Engineers, to Construct a New Bridge and Maintain and Repair the Existing Bridge Over the Chesapeake and Delaware Canal at St. Georges
Opinion No. 89-I022

Dear Governor Castle:

You have asked the following questions as they relate to the obligation of the United States Department of the Army, Corps of Engineers (hereinafter "Corps") to construct, maintain and repair bridges over the Chesapeake and Delaware Canal (hereinafter "Canal"):

1. Whether the Corps is obligated to maintain and repair the existing bridges over the Canal in a manner that provides minimal disruption to the flow of traffic; and

2. Whether the Corps assumed the obligation to provide good and sufficient bridges over the Canal, including the construction of new bridges where necessary.

For the reasons stated in the following opinion, we conclude that:

1. The Corps is obligated to maintain and repair the existing bridges over the Canal in a manner that provides minimal disruption to the flow of traffic and commerce; and

2. The Corps, by condemnation of the property of the Chesapeake and Delaware Canal Company, assumed the obligation to provide good and sufficient bridges over the Canal, including the construction of new bridges where necessary.

I. BACKGROUND

The Chesapeake and Delaware Canal Company ("Company") was incorporated by the State of Delaware by Act of the General

Assembly of Delaware on January 29, 1801, 3 Del. Laws c. 78 at 170 (1801). Section 3 of the Act authorized the Company to take steps necessary to improve navigation between the Delaware River and the Chesapeake Bay, including the construction of canals and locks. 3 Del. Laws c. 78 at 174 (1801). Section 16 of that Act obligated the Company to "make and keep good and sufficient bridges across the Canal so as to prevent any inconvenience in the usages of said road or roads..." 3 Del. Laws c. 78 at 185 (1801). The State reserved for itself the right to determine the meaning of "good and sufficient" in that the State provided that "...it shall be lawful for the Legislature of this State, at all times hereafter, to enact laws for the erecting and maintaining bridges across said canal..." 3 Del. Laws c. 78 at 185 (1801). The Company was to bear the expense of such bridges. The Company constructed the Canal and, in Delaware, four (4) bridges. The current locations of the four bridges are: Summit, St. Georges, Reedy Point, and Fifth Street, Delaware City (which spans a branch canal).

In 1919 Congress authorized up to $2,514,289.70 to be paid as just compensation for the taking of "the existing Chesapeake and Delaware Canal and all the property, rights of property, franchises, and appurtenances used or acquired for use in connection therewith or appertaining thereto." Rivers and Harbors Appropriations Act of 1919, Pub. L. No. 65-323, 40 Stat. 1275, 1277 (1919). The Federal Government acquired the Company's (and its mortgagee's) interest in the Canal, including the franchises and appurtenances connected with the property, by condemnation in 1919 after negotiations for the purchase of the property were not successful. United States v. Chesapeake and Delaware Canal Company and Fidelity Trust Company, No. 5 Dec. Term 1918 (D.Del.). The property interests of the Company and their mortgagee, Fidelity Trust Company, were acquired by the United States for $2,514,289.70, the valuation found by the jury in the condemnation proceedings and the full amount authorized by Congress. No. 5 Dec. Term 1918, Morris, J. (D.Del., June 7, 1919 Order).

It is clear that the Corps recognized at least as early as 1894 that the public had a right of way over the Canal. H. Exec. Doc. 102, 53rd Cong., 3d Sess. (1894), p. 5; H. Exec. Doc. 102, p. 21; H. Exec. Doc. 103, 53rd Cong., 3d Sess. (1894), pp. 69, 87. The United States did not name the State of Delaware as a party to the condemnation proceedings or attempt to seek to condemn any right of way held by the public. Petition for Condemnation, No. 5 Dec. Term 1918. Therefore, the condemnation proceedings did not extinguish the right of way which the public has held since 1801. 3 Del. Laws c. 78 at 185 (1801).

After the condemnation proceedings, the Corps enlarged the Canal, and in the process replaced the bridges at the four (4) sites where bridges had already been in existence. The Corps has maintained bridges at these sites since the condemnation. The bridges have been modified, replaced and, in some cases, widened since the original construction.

The St. Georges Bridge was destroyed after a ship collided with the bridge in 1939. That same year Congress authorized the replacement of the destroyed two-lane drawbridge with a four-lane fixed-span bridge. Rivers and Harbors Act of 1939, Pub. L. No. 76-310, 53 Stat. 1240 (1939). The cost of the replacement bridge was borne entirely by the Federal Government. 53 Stat. 1240.

In 1954 Congress authorized the replacement through the expenditure of Federal funds of the Summit and Reedy Point drawbridges with fixed-span bridges. Rivers and Harbors Act of 1954, Pub. L. No. 83-780, 68 Stat. 1248, 1249 (1954). The cost of the replacement of the Summit and Reedy Point Bridges was also entirely borne by the Federal Government. 68 Stat. 1249. The two-lane Summit Bridge, which was a drawbridge was replaced with a four-lane fixed-span bridge. S. Doc. 123, 83rd Cong., 2d Sess. (1954) at x, xiv, xx, xxix, 34.

II. ASSUMPTION BY THE UNITED STATES AND THE CORPS OF THE COMPANY'S CONTRACTUAL OBLIGATION TO PROVIDE GOOD AND SUFFICIENT BRIDGES OVER THE CANAL

The United States and the Corps have an obligation to construct and maintain bridges so that commerce and transportation over the Canal will not be hindered. This obligation stems from both state and Federal law. In the Charter of the Company in 1801, the State granted property to construct and operate a canal and a franchise to collect tolls to the Company. 3 Del. Laws c. 78 at 178-183 (1801). In exchange, the Company was obligated to provide the State with a right of way across the Canal over good and sufficient bridges. 3 Del. Laws c. 78 at 185 (1801). The terms of the Charter constituted a contractual agreement between the State and the Company. The United States was aware of the State's right of way and included the cost of the replacement of the crossings in its estimates of the cost of upgrading the Canal. See, H. Exec. Doc. 103, 53rd Cong., 3d Sess. (1894), pp. 69, 87.

The United States, through the condemnation proceedings, voluntarily assumed the obligations of the Company to provide good and sufficient bridges across the Canal. 3 Del. Laws c. 78 at 185 (1801). In 1801, in granting the Charter to the Company, the State required the Canal Company to provide and maintain good and sufficient bridges over the Canal to avoid inconvenience to the traffic. 3 Del. Laws c. 78 at 185 (1801). The United States did not attempt to condemn the State's property interest in the right of way during the condemnation proceedings and continued to maintain the right of way after the condemnation.

Aware that the State had a right of way, the United States only attempted to condemn the property interests of the

Company. Petition for Condemnation, No. 5 Dec. Term 1918. The interests of the Company were burdened by the State's easement, which was defined by the Charter of the Company as good and sufficient bridges to avoid inconveniance. 3 Del. Laws c. 78 at 185. The statute authorizing the condemnation only authorized the taking of "the existing Chesapeake and Delaware Canal and all the property, rights of property, franchises, and appurtenances used or acquired for use in connection therewith or appertaining thereto." Pub. L. 65-323, 40 Stat. 1277. This statutory authorization did not include the State's right of way among the property interests to be condemned and the value of that interest was not included in the appropriation. 40 Stat. 1277.

A railroad bridge also existed over the Canal at the time of the condemnation. The railroad's right of way was also not condemned by the United States in 1919 when it acquired the Canal property. Delaware R. Co. v. Weeks, 293 F. 114, 119 (D.Del. 1923). In Weeks, the United States District Court for the District of Delaware held that:

> the United States acquired the canal property subject to the burthen of the railroad and that, merely as owner, the rights of the United States in the canal property are with respect to the bridge, its piers and abutments not greater than or different from those of the canal company during its ownership.

293 F. at 119.

In eminent domain proceedings, the condemnor cannot take rights of property more extensive than the rights held by the condemnee. 1.27 Acres of Land v. State, Del. Supr., 262 A.2d 641 (1970); Thomison v. Hillcrest Athletic Ass'n, Del. Super., 5 A.2d 236 (1939); 3 Nichols on Eminent Domain, sec. 9.2[1] (Rev. 3d ed. 1985). As the Delaware Supreme Court stated in 1.27 Acres, "a condemnor may take only the amount of property and the quantum of estate or interest permitted by the statute." 262 A.2d at 642. The Delaware Superior Court has stated that "unless the Statute provides that a fee simple title shall be acquired, or a fee is necessary for the purposes for which the land is taken, that only an easement or qualified fee is taken by the Eminent Domain proceedings." Thomison, 5 A.2d at 238. As the statute only authorized the taking of the Company's property, the property acquired by the United States was the qualified fee which was subject to the State's easement. 40 Stat. 1277; 1.27 Acres; Thomison.

The Canal cuts the State in half and bridges over the Canal are the only means of access from one side of the State to the other. Therefore, the United States may have been unable to condemn the State's right of way. As the United States District Court for the District of New Jersey stated in a case involving the right of way of an adjoining property owner:

> The condemnor must leave an owner of land abutting a street with reasonable access to the highway for his purposes where he had access immediately prior to the condemnation.

United States v. Certain Land in State of New Jersey, 439 F.2d 670, 673 (1971). The issue of reasonable access is a question of fact. 439 F.2d at 673. However, as the bridges across the Canal are the only means of access across the Canal, which extends from Delaware City, Delaware, to Chesapeake City, Maryland, no other reasonable access across or around the Canal exists. Therefore, the State's right of way cannot be extinguished.

The Corps has indicated that it will take action by May of 1990 to repair the existing St. Georges Bridge by closing one lane each way for an estimated period of two years. The engineers in the Delaware Department of Transportation ("DelDOT") deny that it is necessary to close two lanes for the estimated two years. By letter dated October 17, 1989, John J. Gilbert, the Division Administrator for the Federal Highway Administration informed Lieutenant Colonel G. William Quinby, District Engineer in the Corps' Philadelphia, Pennsylvania office that the Federal Highway Administration supports the DelDOT proposal for repairs to the existing St. Georges Bridge. Mr. Gilbert stated the following position of the Federal Highway Administration in his letter:

> We are in complete agreement with the DelDOT proposal. Their recommended alternative (Alternate C) appears to be the most cost effective and least disruptive to the highway users. The extremely high user costs, associated with a project which would take much longer and require more extensive detour usage, could be minimized under DelDOT's recommended alternative.

The existing St. Georges Bridge accommodates a large flow of traffic over the Canal. The proposal by the Corps to shut down two of the four lanes for a two year period will substantially interfere with the flow of traffic and commerce. The closure of two lanes is not necessary, as less restrictive alternatives exist. Additionally, the closing of the two lanes is expected to detour much of the traffic to the remaining bridges and adjoining roads. Those bridges and roads were not built to handle this increased volume of traffic.

At this time the Corps has not agreed to have the various maintenance alternatives reviewed by an independent expert to determine whether a less restrictive alternative than closure of two lanes for two years can be selected. The Corps, by not agreeing to accept such independent review, violates the Corps' obligation to provide a minimal disruption to the traffic flow and interferes with the right of way over the Canal which the public holds. 3 _Del_. _Laws_ c. 78 at 185 (1801); _See_, Report of Colonel Brown, _supra_.

The projections for the next several decades show the traffic demand for the use of the bridges over the Canal as increasing beyond the capacity of the existing bridges. Based upon the projections by the State Department of Transportation, the existing bridges at St. Georges, Summit, Reedy Point and

Delaware City will not be able to accommodate the increases in traffic flow. The Department of Transportation estimates that the amount of traffic over the St. Georges Bridge will double by the year 2010. Additional lanes of traffic will be needed if the supply of canal crossings is to keep pace with the demand for such crossings by the public.

The plans for the U.S. Route 13 Relief Route have been approved by the Federal Highway Administration, which has the authority to establish a federal-aid highway system. 23 U.S.C. sec. 103. Federal funding for the establishment of the federal-aid highway system is authorized in 23 U.S.C. ch. 1. The Federal Highway Administration approved the location of the St. Georges portion of the U.S. Route 13 Relief Route on July 22, 1987 and the design of that section on December 19, 1988. The Corps' reluctance to accept its responsibility for construction of sufficient Canal crossings interferes with the plans already approved by the Federal Highway Administration. The Route 13 Relief Route is already underway and its construction will be disrupted if the issue of the new bridge is not resolved.

The Corps, by legal memorandum dated July 20, 1989 prepared by the Office of General Counsel, Department of the Army, concluded that the Corps did not assume the obligations of the Company and is not obligated or authorized to construct a new bridge for the U.S. Route 13 Relief Route. Their position is inconsistent with their legal obligation to provide good and sufficient bridges so as not to inconvenience land traffic crossing the Canal. 3 Del. Laws c. 78 at 185 (1801).

Based upon projections of future traffic demand, the Corps will fall short of its obligation to provide good and sufficient bridges unless additional lanes of traffic are constructed. The need for the additional lanes of traffic has already been established to the satisfaction of the Federal Highway Administration.

The Corps is not the Federal agency with the authority to determine whether the additional lanes of traffic are necessary. 23 U.S.C. sec. 103. Rather, the Corps is the agency responsible for providing adequate crossings over the Canal. Without the additional lanes, travel and commerce across the Canal will be inconvenienced when the volume of vehicles crossing the bridges increases.

Any attempt by the United States Government and the Corps to avoid its responsibility to construct and maintain good and sufficient bridges to avoid inconvenience to the traffic, such as unnecessary long-term lane closures or failure to provide an adequate number of lanes for traffic, would be deemed a partial or full taking of the State's right of way, entitling the State to just compensation.

III. THE UNITED STATES AND THE CORPS ARE ESTOPPED FROM DENYING THEIR LEGAL OBLIGATION TO PROVIDE GOOD AND SUFFICIENT CROSSINGS OVER THE CANAL

The doctrine of equitable estoppel, long recognized in Delaware, is based on the ground of promoting fairness and justice by preventing an attempt "to mislead another, and induce him by an assertion of a fact, or the withholding a statement he was bound to make, to act in a way that would be prejudicial to himself." See, Lewis v. Coxe, Del. Super., 5 Har. 401, 403 (1852). It is said that equitable estoppel arises from the conduct of a party, and prevents the inequitable assertion of claims or rights which might have existed by other rules of law. 3 Pomeroy's Equity Jurisprudence, (5th ed.) secs. 802, 804. Equitable estoppel is based upon justice and good conscience. Pomeroy's, sec. 802, p. 180. For the reasons set out below, an application of the doctrine of equitable estoppel to the present circumstances dictates that the United States and the Corps are estopped from denying their legal obligation to provide good and sufficient crossings over the Canal.

The specific elements necessary to give rise to an application of the doctrine of equitable estoppel were set out by the Delaware Supreme Court in Wilson v. American Insurance Company, Del. Supr., 209 A.2d 902 (1965). In Wilson, the Court stated that:

> An estoppel may arise when a party by his conduct intentionally or unintentionally leads another, in reliance upon that conduct, to change position to his detriment. (Citations omitted). To establish an estoppel, it must appear that the party claiming the estoppel lacked knowledge and the means of knowledge of the truth of facts in questions, that he relied on the conduct of the party against whom the estoppel is claimed, and that he suffered a prejudicial change of position in consequence thereof. (Citations omitted).

209 A.2d at 903.

Based upon the elements of equitable estoppel as contained in Wilson above, Delaware law requires the party seeking to establish equitable estoppel to show:

1. that he lacked knowledge and the means of knowledge of truth of the facts in questions;
2. that he relied on the party against whom the estoppel is claimed; and
3. that he has suffered a prejudicial change of position in consequence thereof.

209 A.2d at 903.

Regarding the first element, the State of Delaware clearly lacked both the knowledge and the means of knowledge that the United States was going to deny its obligation to provide good and sufficient crossings over the Canal. A review of the history of the development of the Canal manifests a continuous and determined effort by the United States Government to construct, maintain, and repair the bridges crossing the Canal.

On December 8, 1894 the board appointed by the President to determine a route for an expanded Chesapeake and Delaware Canal reported that:

> A canal will facilitate water-borne commerce, but it may also serve to obstruct land-borne, by the interruptions due to bridges that must be opened when the canal traffic is not carried on in barges alone.

H. Exec. Doc. 102, p. 5. The chairman of the board was Brigadier General Thomas L. Casey, Chief of Engineers.

Attached to the board's report was the report of Mr. N.H. Hutton, Assistant Engineer for the Corps. As a result of a survey conducted by the U.S. Engineers Office from August 1878 until January 1879, Mr. Hutton reported on September 20, 1879 that:

> The question of providing means of transit over the canal, in a country so plentifully supplied with wagon roads as is this peninsula, becomes a serious one, both as to cost and delay in passing vessels through the canal, by reason of the frequent stoppages at the draws.

H. Exec. Doc. 102, p. 21. The route chosen for the expanded canal was the location of the existing Chesapeake and Delaware Canal. H. Exec. Doc. 102. The costs of replacement of the bridges were incorporated into estimates of the project. H. Exec. Doc. 103, 53rd Cong., 3d Sess. (1894), pp. 69, 87.

The Corps attempted to eliminate the Ready Point Bridge, but was not allowed to do so. S. Doc. 123 at xx. Major General Harry Taylor, Chief of the Army Corps of Engineers, stated at a March 1926 Hearing on H.R. 11176 before the House Committee on Rivers and Harbors, 69th Cong., 1st Sess. 39 (1926) that:

> [T]he private canal, as it was before we took it over, had to build the original bridge...[T]hey were obliged to build the original bridge, and we took over all their obligations. So we are obliged to build a new bridge.

In a report to the House Committee on Rivers and Harbors, Colonel Earl I. Brown, the District Engineer for the Corps, reiterated the obligations of the Corps with respect to the bridges:

> In planning all operations, certain primary considerations had to be kept in mind; first, in authorizing the work, Congress imposed the condition that traffic on the canal should be interfered with during the reconstruction as little as possible; second, the spoil from the excavating operations should be disposed of as closely as possible to the point from which taken without overloading the banks of the canal; third, it was known that land slides had occurred in the deep cut in the past, particularly during the original construction of the canal and that they might be expected to recur on a large scale during or after the new operations; fourth, all land traffic, both highway and rail, to and from the Delmarva Peninsula, crossed the canal on various bridges, and these lines of communication could not be broken.

(Emphasis added). Report of Colonel Earl I. Brown, District Engineer, Corps of Engineers, to House Committee on Rivers and Harbors, June 30, 1933, H. Doc. 24, 73rd Cong., 2nd Sess. (1933).

In the February 15, 1950 report of the District Engineer of the Corps to the Chief of Engineers, the District Engineer noted, in referring to the proposed construction of the fixed-span bridges at Summit and Reedy Point, that:

> Recognizing certain rights of the public to highway crossings at Reedy Point and Summit, the United States bore the entire cost of constructing bridges at these points when the canal was converted to a sea-level waterway, and subsequently has borne the entire cost of their operation and maintenance. The rights of the public to these crossings are as valid at this time as when the existing bridges were constructed; their continuance appears to be warranted by the volume and importance of the traffic that they carry; their elimination is definitely opposed by local interests and the Delaware State Highway Department; and the State will not cooperate in defraying the cost of their replacement or subsequent maintenance. In view of these facts it appears that the United States should bear the entire cost of constructing and maintaining the proposed new bridges.

(Emphasis added). S. Doc. 123, at 34.

By letter dated June 4, 1953, Robert B. Murray, Jr., the Under Secretary of Commerce, wrote to the Assistant Chief of Engineers for Civil Works of the Corps that:

> While we concur in the recommendations of the Chief of Engineers concerning the Summit and

> Reedy Point Bridges attention is called to the fact that when the Federal Government originally acquired the Chesapeake and Delaware Canals from private ownership it took over all the property, rights of property, franchises, and appurtenances which included the bridges at Reedy Point, St. Georges, and Summit in the State of Delaware and thus the Federal Government is legally obligated to provide crossings of the canal at the location of the original bridges.

S. Doc. 123, at xix, xx.

The Corps of Engineers is a division of the Department of the Army, an agency of the United States Government. 5 U.S.C. sec. 101; 10 U.S.C. secs. 3036(a)(1), 3063(a)(4). Therefore, the United States Government as a whole, in addition to the Corps, is equally responsible for constructing and maintaining good and sufficient bridges over the Canal.

In addition to the language quoted above, by conduct the United States and the Corps have consistently acknowledged their obligation to construct and maintain good and sufficient crossings since the condemnation of the Company's property in 1919. The Corps has continued to maintain bridges over the Canal since the condemnation. S. Doc. 123, at 34. After the ship collision in 1939, it was the Corps that reconstructed the St. Georges Bridge at Federal expense. Rivers and Harbors Act of 1939, 53 Stat. at 1240. The Summit and Reedy Point Bridges were reconstructed by the Corps when it became necessary to provide higher elevation fixed-span bridges rather than drawbridges at those sites. Rivers and Harbors Act of 1954, 68 Stat. at 1248, 1249.

Congress also acknowledged the Federal Government's obligation to maintain adequate bridges over the Canal by appropriating funds to maintain and improve the bridges. River and Harbors Act of 1939, Pub. L. No. 76-310, 53 Stat. 1240 (1939); Rivers and Harbors Act of 1954, Pub. L. No. 83-780, 68 Stat. 1248, 1249 (1954). The appropriations allowed the bridge system over the Canal to be upgraded rather than just maintained in the condition which existed at the time of the condemnation in 1919. The Corps widened some of the existing bridges and replaced drawbridges with fixed-span bridges. Such renovations were consistent with the Corps obligation to provide good and sufficient bridges to meet the needs of the growing population and the increased use of the bridges.

While the United States and the Corps of Engineers have consistently acknowledged by conduct their obligation to provide good and sufficient crossings over the Canal, the United States has never asserted or maintained that the State of Delaware was obliged to provide good and sufficient crossings over the Canal. In fact, the conduct of the United States clearly indicates otherwise: that the United States, and not the State of Delaware, is obligated to provide good and sufficient crossings over the Canal.

Regarding the second and third elements of equitable estoppel, the State of Delaware has relied upon the conduct of the United States and has suffered a prejudicial change of consequence by virtue of such reliance. The State of Delaware is presently planning the construction and development of the U.S. Route 13 relief route. This relief route constitutes a major construction project and necessarily involves extensive planning. Throughout the planning stages of this project, the State of Delaware has acted based upon its assumption that the United States Government was financially obligated to provide good and sufficient crossings over the Canal. The State of Delaware has sought and gained approval of the relief route project by the Federal Highway Administrator. To allow the United States to be relieved of its obligation to provide good and sufficient crossings over the Canal at this point in time would require the State of Delaware to re-organize the relief route project in a different fashion, thereby causing the State of Delaware to suffer both unnecessary expense and great delay in the implementation of the relief route project.

Furthermore, the State of Delaware has reported budget surpluses for approximately the last ten years. The State of Delaware has determined that portions of these surplus amounts should be expended for one-time capital improvement projects, and that the remainder would be given back to the Delaware citizenry in the form of tax cuts. This fiscal philosophy was, in large part, based upon the reasonable expectation that such surplus funds would not be used to construct, repair, or maintain bridges over the Canal because such obligation has traditionally and consistently been borne by the United States Government. In fact, only within the last two years has the United States indicated to the State of Delaware that the United States would be unwilling to bear the costs of providing good and sufficient crossing over the Canal.

The State of Delaware has suffered a prejudicial change of position by relying upon the conduct of the United States in that, had it known of the intention of the United States to no longer be financially obligated for good and sufficient crossing over the Canal, the State of Delaware would have been able to allocate sufficient funds in the past for such necessary construction regarding the Canal and to plan its State budget accordingly so that the present prospect of financial hardship would be alleviated.

IV. IMPLIED CONTRACTUAL OBLIGATION OF THE UNITED STATES AND THE CORPS

Even if the United States and the Corps did not expressly assume the Company's contractual obligation, the conduct of the United States and the Corps infers that an implied contract exists between the State of Delaware and the United States. *United States v. O. Frank Heinz Construction Co.*, 300 F.Supp. 396 (S.D.Ill. 1969). In *Heinz*, the United States District Court for the Southern District of Illinois defined "implied contracts" to include:

> contracts implied in fact and "quasi" or constructive contracts. In the case of In re Estate of Brumshagen, 27 Ill.App.2d 14, 23, 169 N.E.2d 112, 117 (1960), the Court stated:
>
> > "An implied contract is proven by circumstances showing that the parties intended to contract or by circumstances showing the general course of dealing between the parties. An agreement may be said to be implied when it is inferred from the acts or conduct of the parties..."
>
> It is clear that a "meeting of the minds" is not required to be shown by an unequivocal acceptance in an implied contract. Neither a written offer and acceptance nor oral counterparts are essential to establish a contractual relationship, for unambiguous conduct of one party toward the other under such circumstances as clearly to manifest an intention that one party perform and the other party compensate for such performance is sufficient. 17 C.J.S. Contracts sec. 4b (1963).

300 F.Supp. at 399. The concept of implied contracts is accepted in Delaware. See, Trincia v. Testardi, Del. Ch., 57 A.2d 638, 642 (1948).

A contractual obligation existed between the Company and the State of Delaware based upon the Charter of the Company. 3 Del. Laws c. 78 (1801). In exchange for the grant of the Charter by the State, the Company agreed to provide good and sufficient bridges over the Canal. 3 Del. Laws c. 78 at 185 (1801). Had the United States and the Corps not manifested an intent to provide the crossings, the State's right of way would have been subject to condemnation. The State took no action in the condemnation proceedings because the United States and the Corps assumed the Company's obligation through the condemnation proceedings. See, Commissioners of Highways, etc. v. United States, 466 F.Supp. 745 (N.D.Ill. 1979), aff'd in part, rev'd in part, 653 F.2d 292 (7th Cir. 1981). The conduct by the Corps in maintaining, reconstructing and improving the bridges since the condemnation with funds appropriated by Congress, the statements of officials of the Corps that it was obligated to do so, and the conduct of the United States during the condemnation proceedings support the position that an implied contract exists between the United States and the State.

V. CONCLUSION

In its July 20, 1989 memorandum, the Department of the Army Office of General Counsel indicated that it is not obligated to construct the proposed new bridge and were it obligated it could not do so because Congress has not appropriated funds for that purpose. The Corps' obligation to construct the new bridge exists independent of the status of the appropriation process. The Corps is not only obligated to construct the new bridge and estopped from denying its obligation, it has an affirmative duty to seek adequate appropriations for the proposed bridge in order to comply with its existing obligations. The issue of appropriations has no bearing on the Corps' obligation to maintain the existing St. Georges Bridge in a manner which will provide the minimum disruption to the traffic flow.

While other factors and authorities may support the position set forth above, the authorities cited herein provide ample support for the conclusions that the United States and the Corps are obligated to construct, maintain and repair good and sufficient bridges over the Canal in a manner that provides minimal disruption to the flow of traffic and to construct new bridges where necessary.

If you have any further questions regarding this matter, please do not hesitate to contact us.

Very truly yours,

Michael F. Foster
Michael F. Foster
State Solicitor

Diane J. Bartels
Diane J. Bartels
Deputy Attorney General

LETTER FROM CHARLES M. OBERLY, III, ATTORNEY GENERAL, DELAWARE

February 22, 1990

Robert Grady
Associate Director for
Natural Resources, Energy & Science
Office of Management & Budget
Room 261
Washington, DC 20503

Bruce D. Long, Branch Chief
Office of Management & Budget
Water Branch
Room 8026--NEOB
725 Seventeenth Street NW
Washington, DC 20503

Re: Obligation of the United States to Construct and
Maintain the U.S. Route 13 Relief Route Bridge
Over the Chesapeake and Delaware Canal at St. Georges

Gentlemen:

Thank you for the opportunity to meet with you and other representatives of the Federal Government on February 8, 1990 in Washington. We certainly appreciate the serious consideration and enlightening viewpoints the attendees gave to the issues surrounding the 1801 Charter and the Federal assumption of the obligations contained within it. As we stated at the meeting, if you believe another meeting would be useful, or if you want more information concerning this critical issue, please feel free to contact me or members of my staff at any time.

At our meeting much of the discussion centered upon the interpretation and effect of Section 16 of the Delaware Charter of the Chesapeake and Delaware Canal Company. 3 Del. Laws, c. 78, at 185 (1801). As we stated at the meeting, the State of Delaware believes that the United States assumed the obligation to maintain good and sufficient bridges contained in Section 16 when it acquired the corporate franchise. Accordingly, the United States has the legal and contractual obligation to provide for the necessary expansion of the St. Georges crossing traffic capacity. This expansion requirement is met by the

State's proposal for the functional equivalent of a twin span for the existing bridge, approximately 567 yards from the existing, obsolete span. The twin span, with six lanes of traffic and two wide shoulders capable of conversion into two additional lanes, would serve the U.S. Route 13 Relief Route. In addition to the opinions you already received on these issues, some points raised at the meeting bear further discussion.

The 1801 Charter, a corporate charter granted by the State, was a contract between the Chesapeake and Delaware Canal Company and the State of Delaware. See, 18 C.J.S. Corporations Section 71, p. 456 (1939); Morris v. American Public Utilities Co., Del. Ch., 122 A. 696, 700 (1923). In exchange for granting the corporate franchise to the Canal Company, the State reserved the right to have good and sufficient bridges provided by the Canal Company at the Canal Company's expense. 3 Del. Laws c. 78, sec. 16, at 185 (1801). The State's right was similar to a private right of way, which is a property interest. See, United States v. Welch, 217 U.S. 333, 339 (1910). The condemnation proceedings in 1919 did not attempt to extinguish and did not have the effect of extinguishing the obligation owed to the State to provide good and sufficient bridges. However, the United States took over the Canal Company's property, including the bridges, through the condemnation.

Congress authorized the condemnation of "the existing Chesapeake and Delaware Canal and all the property, rights of property, franchises, and appurtenances used or acquired for use in connection therewith or appertaining thereto." Rivers and Harbors Appropriations Act of 1919, Pub. L. 65-323, 40 Stat. 1275, 1277 (1919); see, also, Rivers and Harbors Appropriations Act of 1917, Pub. L. 65-37, 40 Stat. 250, 253 (1917). This statute did not authorize the taking of the State's property interest. Therefore, the Federal Government's responsibility to provide good and sufficient bridges still exists today.

The description of the property authorized to be condemned was incorporated into the Petition for Condemnation. United States v. Chesapeake and Delaware Canal Company and Fidelity Trust Company, No. 5 Dec. Term 1918. (Copies of the Petition for Condemnation, the transcript of the condemnation hearing, and the deed were sent to Mr. Gerald Fish of the Justice Department, under separate cover). The Petition for Condemnation specifically outlines the property in question. No mention is made of the State's right to good and sufficient bridges, even though it is contained within the Charter. The Petition for Condemnation, at p. 22, states that the Board of Directors of the Canal Company were willing to accept $2,514,289.70 (the full amount authorized by Congress) "as a price for its said property." However, due to difficulties in obtaining the approval of the bondholders and stockholders of the Company and gaining clear title, the United States determined that it should proceed to condemnation proceedings rather than purchase the property. Petition for Condemnation, at 22-23.

During the April 8, 1919 hearing before the Honorable Hugh M. Morris, District Judge, Charles F. Curley, Esquire, the attorney for the United States, in addressing the jury, described the property at issue as "the property and appurtenances of the Chesapeake and Delaware Canal Company, a corporation of Delaware, Maryland and Pennsylvania, used in connection with the operation of the canal." Transcript at 3. Felix Agnus, chairman of the Agnus Commission, testified that his Commission determined that the value of the Canal Company property was $2,514,289.70 (the full amount authorized by Congress for the condemnation). Transcript at 6-9. The jury assessed the Canal Company's property at that amount. Transcript at 22-23.

Congress only authorized the condemnation of the Canal

Company's property. The construction of such authorizing statutes has been discussed in 3 Nichols on Eminent Domain, sec. 9.2[1] (Revised 3d ed. 1985):

> Statutes authorizing the exercise of eminent domain are to be strictly construed against the condemnor. This rule of strict construction has been applied to statutory declarations with respect to the extent of the interest which is to be acquired. It has been held that only such interest as is expressly authorized by statute may be taken. The extent of the interest to be acquired may not be enlarged by implication.
> (footnotes omitted).

Therefore, under a strict construction of the Rivers and Harbors Appropriations Act of 1919, the United States was only authorized to condemn the Canal Company's property, not the State's property interest in having the Canal Company provide good and sufficient bridges over the canal.

The United States assumed another obligation to provide and maintain good and sufficient bridges in Illinois through condemnation proceedings in the late 1800s. That obligation was the subject of litigation in Com'rs of Hwys. of Towns of Annawan, et al. v. U.S., 466 F.Supp. 745 (N.D. Ill. 1979), aff'd in part and rev'd in part, 653 F.2d 292 (7th Cir. 1981) ("Annawan"). In Annawan, the right to have the bridges maintained was held to be a property interest for which compensation was owing upon a taking. 653 F.2d at 296. The United States Court of Appeals for the Seventh Circuit also held that the United States continued to be responsible for maintenance costs which accrued during their ownership, even after the United States had transferred ownership of the bridges to the State of Illinois. 653 F.2d at 298.

While there are factual differences between Annawan and the instant case, those differences are not relevant. In Annawan, the obligation to provide good and sufficient bridges appears to have been created by the authorizing legislation and was specifically limited by that legislation in the following language:

> [t]hat in acquiring right of way the Secretary of War may make agreements for joint user [sic] where the canal crosses other lines of transportation if such agreements can be made upon reasonable terms: Provided further, That in acquiring the right of way by agreement or otherwise for the crossing of existing public highways over the parts of the canal constructed on land, the basis of agreement or condemnation shall be construction and maintenance of bridges by the United States Government, as provided for in the detailed plans and estimates heretofore submitted to Congress, but this provision shall not apply to bridges constructed over public waters of the United States now occupying part of the line of the said canal, nor to bridges constructed after the completion of said canal or part thereof adjacent to the bridge sites.

Annawan, 466 F.Supp. at 749, citing the Act of July 13, 1892, ch. 158, 27 Stat. 88, 106. (Emphasis in original).

The instant case differs from Annawan because here the obligation to maintain good and sufficient bridges does not contain any limiting language. The obligation arose from the 1801 Charter granted by the State rather than from an Act of Congress. The holding in Annawan does not require that the obligation stem from an Act of Congress. Therefore, Annawan stands for the proposition that the United States is bound by obligations it assumes in condemnation proceedings, but the holding is not limited to those cases in which the obligation arose out of Federal law. As to the present matter, the United States assumed the 1801 obligations through the Congressionally authorized condemnation.

At the February 8 meeting, Mr. Cohen also questioned the State's reliance upon the undisputed statements of members of the Executive Branch during the 70-year history of Federal ownership, management, and expansion of the canal and its bridges. In addition to our comments at the meeting on this subject, we also refer you to N.L.R.B. v. Hearst Publications, Inc., 322 U.S. 111 (1944), as well as 73 Am. Jur. 2d, Statutes, Sec. 168, pp. 371-72 (1974). These authorities indicate that significant weight should be given to the longstanding construction of legislation by the agency and executives charged with administering the program derived from the legislation. Accordingly, in the present case the State is certainly entitled to rely on the comments made by such Federal officials as Major General Harry Taylor, Chief of the Army Corps, when in 1926 he discussed the Corps' obligations before a House Committee, and the broadly worded admission of Secretary of War Harry H. Woodring: "The United States is obligated to maintain reasonably adequate highway crossings over the canal." Letter to Senator Bailey, July 6, 1939, supporting S.B. 2524 (Pub.L. No. 76-310 (1939). These statements are not only admissions against interest, but also accurately reflect the legal and contractual obligations assumed by the United States when it acquired the canal company's property. We found no legislative history to the contrary.

We also refer you to another case involving this canal, Perrine v. Chesapeake and Delaware Canal Co., 9 How. (50 U.S.) 172 (1850), which relates to and supports the State's position. Relying on such cases as Dartmouth College v. Woodward, 4 Wheat. 518, 627 (1819), Chief Justice Taney held that the Canal Company "is a mere creature of the law, and can exercise no powers except those which the law confers upon it, or which are incident to its existence." Perrine, supra, 50 U.S. at 184. Justice Taney stated that:

> [t]he corporation has no rights of property except those derived from the provisions of the charter, nor can it exercise any powers over the property it holds except those with which the charter has clothed it. It holds the property only for the purposes for which it was permitted to acquire it,--that is, to effectuate the objects for which the Legislature created it.

Id. In Perrine, the Canal Company claimed the inherent right to charge tolls for passengers on steam packets traveling through the canal. The Supreme Court held that the Canal

Company could not expand its powers to collect tolls which were neither expressly nor impliedly permitted under its corporate franchise.

As to the present matter, the State's reservation of its right to determine that the Canal Company's franchise holder should provide additional traffic crossing capacity over the canal, and the express obligation of the franchise holder to build and maintain good and sufficient bridges over the canal at its expense, remain in effect today. The United States did not acquire the right to avoid this responsibility, since the Canal Company's franchise did not contain this right. Of course, as occurred in previous years, the United States could itself determine that new needs existed and so provide for them without an express directive from the State. Nonetheless, the State retained the independent right to determine that new capacity was needed to meet the sufficiency standard contained in the Charter, and it has done so through the passage of recent legislation. (A copy of that legislation is attached as Exhibit A.)

Other points addressed in Perrine bear mentioning here. Chief Justice Taney held that:

> Any ambiguity in the terms of the grant must operate against the corporation and in favor of the public, and the corporation can claim nothing that is not clearly given in the law.

Perrine, supra, 50 U.S. at 192. Furthermore, "The rights of the public are never presumed to be surrendered to a corporation, unless the intention to surrender clearly appears in the law." Id. Finally, the Supreme Court held that "[i]t is not the province of this Court to enlarge the powers of a corporation beyond the limitations of the charter, because circumstances have changed." Id. at 189.

These holdings also support the State as applied to this matter. As held in Delaware R. Co. v. Weeks, 293 F. 114

(D.Del. 1923), decided by the same judge who presided over the Canal Company condemnation, the United States acquired the assets and obligations of the Canal Company--nothing more, nothing less. Nothing in the acquisition extinguished the obligations contained in Section 16. In fact, Judge Morris specifically referred to Section 16's reservation clause. Id. at 117. Furthermore, the State's acceptance of the acquisition did not extinguish its prior reservation of the right to decide that more lanes of traffic over the canal were needed, to be provided at the canal owner's expense. The Federal Government accepted these facts in the past, and it should continue to do so today.

Mr. Cohen also raised an issue concerning the "pains and penalties" clause in Section 16. As we stated at the meeting, in our view issues involving that clause are premature at this time. Nonetheless, we also refer you to the general rules of statutory construction, which should allay any concerns you may have that the rest of Section 16 is somehow controlled by the "pains and penalties" clause.

Courts avoid giving statutory language a "strained or forced" meaning. 73 Am.Jur.2d, Statutes, Section 206, pp. 401-402 (1974); see, also, 2A Sutherland, Statutory Construction (4th ed. 1984), Sections 45.12 and 47.28, pp. 54-67, 223-34. Instead, the words of the statute are to "be interpreted in their ordinary acceptance and significance, and the meaning commonly attributed to them." 73 Am.Jur.2d, Statutes, Section 206. In addition,

> ...where a statute grants a right or imposes a duty, it also confers by implication every particular power and every reasonable means necessary for the exercise of the one or the performance of the other.

Id. at Section 209, p. 404. These canons support the State's position as applied to Section 16 of the Charter.

The first clause establishes the canal owner's obligation to "make and keep good and sufficient bridges over the canal...." Nothing in this clause limits the determination of sufficiency to the standards of 1801. The standard is an elastic one, changing to meet the traffic needs. Until now, the canal owners have met this obligation. In addition, this clause does not depend on the rest of the section for a rational determination of its meaning. The duty contained in this section carries with it the necessary implication that the canal owner has the right to act to meet additional crossing needs, without more.

The second clause, separated from the first by the word "and," covers a different subject. It contains the state's right to protect the public, by reserving the specific ability to "at all times hereafter, to enact laws for the erecting and maintaining bridges across the said canal, at the expense of the said company...." Using the ordinary meaning of the phrases in this clause, the State merely reserved the option to protect the public if the canal owner did not independently meet the obligation of the first clause.

The third clause, separated from the second by the word "and," reserved to the State a legislative option, which could "subject the said company to forfeiture, pains and penalties for not complying with" State legislation determining the need for additional traffic crossing capacity. This clause cannot be read as limiting or controlling the State's right to make the initial determination of need, because it is unrelated to that determination. The penalties clause could only be activated if the canal owner refused to meet its obligation after legislative notice by the State of the State's determination of need. Therefore, this third clause is dependent upon the second clause, not vice versa. See, Perrine, supra at 192; See, also, 3 Sutherland, Statutory Construction (4th ed. 1984), sec. 63.06, pp. 147-51 (franchises must be given strict interpretation against claims of grantee and in favor of the public).

We believe the information provided here and in previous submissions gives the Federal Government the legal and factual support for a decision favoring the continuation of the long-standing Federal commitment to meeting the obligations it assumed by taking over the Chesapeake & Delaware Canal. We certainly value the time you have devoted to understanding the State's position on this matter and appreciate your willingness to discuss the issues openly. We also know you understand the importance to the economy of the State of Delaware and the United States of assuring that the crossings over the canal meet the present and future traffic needs. As noted earlier, if you need any further information, please contact us at your earliest convenience.

Very truly yours,

Charles M Oberly III

Charles M. Oberly III
Attorney General

Michael F. Foster

Michael F. Foster
State Solicitor

67 172

SPONSOR: Sen. Martin, Rep. Roy
Sen. Cook, Rep. Caulk
Sen. Sharp, Rep. B.Ennis
Sen. Minner, Rep. Outten
Sen. Hauge, Rep. Jester
Sen. R. Still Rep. Mack
Sen. Vaughn Rep. Taylor

DELAWARE STATE SENATE

135TH GENERAL ASSEMBLY

JAN 24 1990

SENATE SUBSTITUTE NO. 1

FOR

SENATE BILL NO. 321

AN ACT OF THE 135TH DELAWARE GENERAL ASSEMBLY REQUESTING THE GOVERNMENT OF THE UNITED STATES OF AMERICA TO PROVIDE FOR THE TIMELY CONSTRUCTION AND MAINTENANCE OF A NEW BRIDGE OVER THE CHESAPEAKE AND DELAWARE CANAL IN THE VICINITY OF ST. GEORGES, AS PART OF THE U.S. ROUTE 13 RELIEF ROUTE, IN KEEPING WITH ITS OBLIGATIONS TO THE STATE OF DELAWARE.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF DELAWARE:

Section 1. Legislative Findings and Determinations.

(a) The General Assembly finds that:

(1) The Chesapeake and Delaware Canal cuts the State of Delaware and the Delmarva Peninsula into two parts, eliminating overland access to the major metropolitan areas of the East Coast.

(2) In recognition of the effect of the canal on the State's economy, the Act of Incorporation of the Chesapeake and Delaware Canal Company, enacted into law at 3 Delaware Laws, Chapter 78, provided in Section 16 of said Act that "Whenever said canal shall cross any public road, it shall be the duty of said company, at the proper expense of the same, to make and keep good and sufficient bridges across the said canal, so as to prevent any inconvenience, in the usage of said road or roads by reason of said canal crossing the same, and that it shall be lawful for the Legislature of this State, at all times hereafter, to enact laws for the erecting and maintaining bridges across the said canal, at the expense of the said company, and to subject the said company to forfeitures, pains and penalties for not complying with such laws."

(3) By an Act dated March 26, 1909, appearing at 25 Delaware Laws, Chapter 165, the General Assembly approved in advance the acquisition of the property, rights of property, franchises, and appurtenances of the Chesapeake and Delaware Canal Company by the United States of America. This approval did not in any way eliminate the obligation contained within Section 16 of the corporate franchise to build and maintain sufficient bridges over the Canal.

(4) The River and Harbors Act of 2 March 1919, Public Law No. 323, authorized the acquisition by condemnation by the United States of the Company's Chesapeake and Delaware Canal and "all the property, rights of property, franchises, and

appurtenances used or acquired in connection therewith. . . " By such acquisition the United States assumed the Company's obligations, including the obligation to make and keep good and sufficient bridges over the canal. In connection with the acquisition, Congress expressly provided that "all land traffic, both highway and rail, to and from the Delmarvia (sic) Peninsula" crossing the canal "could not be broken". The condemnation was carried out in 1919, and the United States of America has since owned, operated, maintained, and improved the Canal and the highway bridges crossing it.

(5) In keeping with the obligations it assumed, the Federal Government built new bridges over the canal at Reedy Point, Summit, and St. Georges, including the addition of new lanes for highway traffic at Summit and St. Georges. The accepted understanding by the United States of its obligations is illustrated by a written statement of July 6, 1939, by then-Secretary of War, Harry H. Woodring: "The United States is obligated to maintain reasonably adequate highway crossings over the canal". Accordingly, when new lanes of highway crossings are needed, the United States is obligated to provide them.

(6) United States Route 13 crosses the canal at St. Georges. The existing bridge for Route 13 at St. Georges is the most important bridge over the canal in Delaware, carrying 60% or more of the north-south traffic from the Delmarva Peninsula to major eastern cities.

(7) As reflected, inter alia, in recent bond bills passed by the General Assembly, the State has determined that a relief route is necessary to carry the increased traffic now overburdening U. S. Route 13. This relief route, as planned by the State and approved by the Federal Highway Administration, includes a new crossing over the canal in the vicinity of the existing crossing at St. Georges, Delaware. Construction of aspects of this route began in 1989, with the State eventually projected to incur over $400 million in construction costs, financed from the State's Transportation Trust Fund, over and above the construction costs of the new crossing over the canal.

(8) The Delaware Department of Transportation estimates that rising annual average daily traffic (AADT) figures within this decade will lead to failing levels of service on U.S. Route 13, in the absence of the new Relief Route, which includes a new crossing over the canal.

(9) The existing St. Georges Bridge is currently scheduled for interim repairs. It is also projected that major rehabilitation of the existing bridge will be required. The interim repairs should permit the delay of the major rehabilitation of this bridge for five years. Nonetheless, the projected major

rehabilitation will cause severe traffic disruptions on U. S. Route 13, in the absence of a new crossing for the Relief Route being in place by that time.

(10) A new bridge for the U. S. Route 13 Relief Route, using designs now under review by the Delaware Department of Transportation and the Federal Highway Administration, will take at least three years to be completed and open to traffic.

(11) Under the circumstances outlined herein, at a minimum the new bridge for the relief route should be built and in operation on or before December 31, 1995 in order to maintain levels of service and prevent the serious disruption of the State's economy.

(b) The General Assembly hereby determines that pursuant to the obligations the United States assumed by its acquisition of the property of the Chesapeake and Delaware Canal Company, the United States should provide for the construction and maintenance of a new bridge over the canal to carry the highway traffic using the U. S. Route 13 Relief Route, in order to make and keep good and sufficient crossings over the canal.

Section 2. Terms and Conditions. Pursuant to its legally binding obligation contained in 3 Delaware Laws, Chapter 78, Section 16, the Government of the United States of America is hereby requested to provide for the construction and maintenance of a new bridge over the Chesapeake and Delaware Canal for the U. S. Route 13 Relief Route, under the following terms and conditions:

(a) The new bridge should be built using a design and in the location approved by the Delaware Department of Transportation and the Federal Highway Administration, on a schedule which will permit the new bridge to be in operation on or before December 31, 1995.

(b) Federal appropriations for the Federal Fiscal Year 1991, which begins October 1, 1990, should contain provisions indicating the Federal Government's acceptance of its obligation to provide for the construction and maintenance of the new bridge under the terms and conditions outlined herein, on or before December 31, 1995. The absence of any such appropriation, or other suitable Federal legislation enacted before December 31, 1990, as determined by the Governor, shall be taken by the State of Delaware as a refusal by the Federal Government to meet its obligations to make and keep good and sufficient crossings over the Chesapeake and Delaware Canal, as required under 3 Delaware Laws, Chapter 78, Section 16.

Section 3. Effective Date. This Act shall become effective upon approval by the General Assembly and execution by the Governor; however, Section 2 of the Act shall not remain in effect if the Government of the United States and the State of Delaware enter into an agreement which will provide the necessary crossing over the canal under terms and conditions acceptable to both governments, which terms and conditions may differ from those provided in Section 2.

SYNOPSIS

Under the 1801 law granting the corporation charter to the Chesapeake and Delaware Canal Company, the company was obligated to build and maintain adequate crossings over the canal. The General Assembly reserved the right to make the determination in the future that new crossings would be required, to be built and maintained at the company's expense. The company agreed to the reservation of the State's authority. The United States government assumed these obligations when it acquired the canal company's assets and obligations in 1919.

This bill requests the government of the United States to provide a new bridge over the canal so as to "make and keep good and sufficient bridges across the said canal", so that the new crossing needed for the U.S. Route 13 Relief Route will be in place and in operation on or before December 31, 1995. Failure to meet the terms of the request shall be taken as a refusal to meet the Federal Government's obligations, unless a suitable alternative agreement is reached.

Author - Sen. Martin

NEW YORK, NEW JERSEY, DELAWARE NAVIGATION PROJECTS

STATEMENT OF WILLIAM HARRISON, EXECUTIVE SECRETARY-TREASURER, JOINT EXECUTIVE COMMITTEE FOR THE IMPROVEMENT AND DEVELOPMENT OF THE PHILADELPHIA PORT AREA

ACCOMPANIED BY:

ALAN WOOD, ASSISTANT DIRECTOR OF THE WORLD TRADE DIVISION OF THE DELAWARE RIVER PORT AUTHORITY

JOHN DOHERTY, ASSISTANT DIRECTOR, PORT OF WILMINGTON

JOHN BURKHARDT, PENJERDEL COUNCIL

WILLIAM MCLAUGHLIN, DIRECTOR OF COMMUNICATIONS, PHILADELPHIA PORT CORP.

JOSEPH BALZANO, EXECUTIVE DIRECTOR, SOUTH JERSEY PORT CORP.

LOUIS CACCESE, CONSULTANT TO THE JOINT EXECUTIVE COMMITTEE

GEORGE DUFFY, PRESIDENT, NAVID'S CORP.

HAROLD ELLWANGER, CAPTAIN, SUN TRANSPORT CO.

DAVID NORCROSS, ESQ.

Senator DOMENICI. Excuse me for delay and thank you very much for your patience.

Paul Lane Ives, chairman of the executive committee and William Harrison, executive secretary-treasurer.

I understand you are the principal spokesman?

Mr. HARRISON. That is correct.

Senator DOMENICI. You might want to introduce the rest of the members for the record so we know they are here. Do any of the rest of you intend to make statements?

Just the two of you? All right. We would like their names nonetheless.

Would you introduce them please?

INTRODUCTION OF ACCOMPANYING WITNESSES

Mr. HARRISON. Mr. Chairman, first of all, before introducing them, I would explain that Capt. Paul Lane Ives is not here today. I would be pleased to have the opportunity to introduce the other people here. Our delegation represents the three States of Pennsylvania, Delaware, and New Jersey, southern New Jersey, and on my far left is Mr. Joseph Grossi, whom you have met earlier.

Mr. Alan Wood, who is assistant director, world trade division, Delaware River Port Authority, and Mr. John Doherty, who is assistant director of the Port of Wilmington. On my far right is Mr. John Burkhardt of the PenJerDel Council and Mr. William McLaughlin, who is director of corporate communications for the Philadelphia Port Corp., and next to him is Mr. Joseph Balzano, who is executive director of the South Jersey Port Corp. In addition, we have just a few people in the audience whom I would appreciate it if I could also introduce.

Senator DOMENICI. Please do that.

Mr. HARRISON. Mr. Louis Caccese, who is a consultant to the Joint Executive Committee, Mr. George Duffy is president of Navid's Corp. and Capt. Harold Ellwanger of Sun Transport Co. We have our Washington representative, Mr. David Norcross. Thank you very much.

Senator DOMENICI. Thank you. You can proceed now, Mr. Harrison. Thank you very much.

Mr. HARRISON. I intend to summarize my remarks as much as I can, sir, in the interest of your time. The Joint Executive Committee is the spokesman for 24 Delaware Valley civic and trade organizations. Organized in 1888, this committee has participated in and promoted all major navigation improvements to the Delaware, Schuykill, and Christiana Rivers and to the Chesapeake and Delaware Canal. The members pay no dues beyond the nominal amounts needed to cover the organization's administrative expenses, and its officers serve without compensation.

Our Delaware River marine terminals located in three States and identified collectively as the Ports of Philadelphia handled approximately 70 million tons of international cargo during calendar year 1989. This commerce generated more than $2 billion into the economy of the tri-State Delaware Valley region.

Seven major oil refineries, the largest refinery complex on the East Coast, plus one of the Nation's largest steel mills are located along the Delaware river. In addition to the strong support these facilities lend to the economy and to national defense, the Philadelphia Naval Base is strategically located in the confluence of the Delaware and Schuykill Rivers. In 1989 waterborne commerce in the Ports of Philadelphia produced approximately $441 million to the Federal Government in customs receipts.

For these reasons, we solicit your support for our important and necessary navigation projects. Mr. Chairman, we have three projects about which we have some concern with respect to the funding levels, and I would like now to just simply mention those to you.

OPERATION AND MAINTENANCE NEEDS

Under operations and maintenance, Philadelphia to the sea, we have $11,410,000 appropriated in the President's budget. This represents an approximately $2 million reduction from the fiscal year 1990 level. No allowance has been made for increasing costs.

This reduction will result in a decrease in dredging with the consequence of a reduction in vessels' draft. This will impose light loading, greater shipping costs, and an increase in lightering on the users of this waterway. The increase of lightering of oil is of particular concern since any additional oil handling increases the possibility for oil spills. We urge that $2,625,000 be added to the Philadelphia to the sea O&M project. We think this is consistent with the Corps' capability.

Senator **Domenici**. Mr. Harrison, could you just let me interrupt for a moment? The reporter wants to reflect the names of the people that were introduced, and we did not get them all. If you would help us with that, we would appreciate it. Please go ahead, Mr. Harrison.

Delaware River Main Channel

Mr. **Harrison**. We should also like to point out that the President's budget does not provide planning, engineering and design funds for the proposed 45-foot channel in the project Delaware River, Philadelphia to the sea. It already has been determined that this proposed channel deepening has benefits which will exceed costs. Benefits will accrue on over 60,000,000 million tons of bulk cargo which is carried on the Delaware River annually.

This deeper channel will also reduce the amount of oil now lightered in Delaware Bay due to inadequate channel depths. The reduction in lightering is a reduction in oil transfer in the Delaware Bay which better insures against oil spoils. The proposed improvement will also be a boon to the bulk export cargo of scrap iron and coal from Philadelphia.

Local interests are convinced of the merits of this project, and the Delaware River Port Authority has identified themselves as the sponsor for cost sharing. Failure to provide funds for design in fiscal year 1991 causes a delay of a year in realizing benefits. In view of this, the add-on of $1 million for planning, engineering and design is warranted in our view.

Delaware River, Vicinity of Camden, Beckett Street Terminal

Finally, I would make comments on the Delaware River—vicinity of Camden, Beckett Street Terminal. This is a request for $3,290,000 of construction funds which are not now in the President's budget. This project has been authorized and preplanning and design for this project will be completed in fiscal year 1990. Construction of this project can be undertaken and completed in fiscal year 1991 if the Federal share of construction funds are provided. Delay in construction funding merely delays receipt of the benefits which this project will provide. The entire Federal cost of the project is $3,500,000.

The importance of the project to our region is attested by the fact that the current 37-foot project depth was a result of one of the earliest cost-sharing projects in the Nation; however, the 37-foot depth which was completed in 1988 continues as a limitation in obtaining the further economic benefits from deeper draft vessels. Early completion of the 40-foot depth will provide immediate benefits. The principal export commodities are scrap iron and coal to destinations which can receive vessels up to and over 40 feet.

We urge prompt initiation of construction of the 40-foot project so that the economic benefits can be achieved and that much needed export tonnage can be increased. Local interests have agreed to provide the required cost sharing for the 40-foot project as has been done for the recently completed 37-foot project. Mr. Chairman, we thank you very much for your kind attention.

Senator **DOMENICI**. Thank you very much, Mr. Harrison. Let me indicate that we are fully aware of the sum total of these projects. Obviously, they are all meritorious. The President's budget has about $11.4 million in it, and as we understand it, the sum total of the add-ons that you are recommending in behalf of the combined group is about $6.9 million, almost $7 million; is that correct?

Mr. **HARRISON**. That is correct, sir; yes.

Senator **DOMENICI**. So again, let me say that none of these seem to be unreasonable requests. You understand the kind of problem we have got, and obviously, this will get serious consideration. We are aware of how the combined efforts in these three States is working for the economy of the country and the economy of the region, and we will do our very best.

Any of you have written remarks that you want to put in the record? We thank you very much, and you sure did have a strong showing. We understand that means strong broad-based support, and we very much appreciate that and the record will reflect that. Thank you, very much.

[The statement follows:]

STATEMENT OF PAUL IVES, JR.

IDENTIFYING REMARKS

The Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area is port-affairs spokesman for twenty-four Delaware Valley civic and trade associations whose names appear at the bottom of this letterhead page. Organized in 1888, this Committee has participated in and promoted all major navigation improvements to the Delaware, Schuylkill and Christina Rivers and to the Chesapeake and Delaware Canal. The members pay no dues beyond the nominal amounts needed to cover the organization's administrative expenses, and its officers serve without compensation.

Our Delaware River marine terminals in Camden, Gloucester, Pettys Island, Morrisville, Philadelphia, Chester and Wilmington; located in three states and identified collectively as the Ports of Philadelphia; handled approximately 70,000,000 tons of international cargo during calendar year 1989. This commerce generated more than two billion dollars into the economy of the tri-state Delaware Valley region.

Seven major oil refineries; the largest refinery complex on the east coast. plus one of the nation's largest steel mills are located along the Delaware River. In addition to the strong support these facilities lend to the economy and to national defense, the Philadelphia Naval Base is strategically located at the confluence of the Delaware and Schuylkill Rivers. In 1989 waterborne commerce in the Ports of Philadelphia produced approximately $441 million for the Federal Government in Customs Receipts. For these reasons we solicit your support for our important and necessary navigation projects.

SUMMARY

The Joint Executive Committee recognizes the need for fiscal restraint and supports the Corps in its drive to obtain economies in its navigation programs. However, the following projects, essential to the forward growth of this port and the resulting benefits which are generated into the economy of the Delaware Valley have either not been funded or funded to levels inadequate to achieve the goals. Accordingly, we urge that the additional sums, consistent with the reported capability of the Corps' Philadelphia District, be added to the Budget.

PROJECT	FY '91 BUDGET	ADDITIONAL AMOUNT REQUIRED
O & M, Delaware River, Philadelphia to the Sea	$11,410,000	$2,625,000
PD, Delaware River Comprehensive Navigation		1,000,000
Construction, Delaware River, Vicinity of Camden (Beckett Street)		3,290,000
TOTAL ADDITIONAL AMOUNT REQUIRED		$6,915,000

TESTIMONY

The Joint Executive Committee appreciates the support of the Congress and the Corps of Engineers in maintaining the navigation arteries which sustain the economic vitality of our tri-state region. Reliable data reveals our Ports' activities along the Delaware River generates nearly $2 billion into the economy of the tri-state Delaware Valley region and directly accounts for 100,000 jobs.

The items of our particular interest in the President's Budget which we specifically support, subject to increases as hereinafter described, are:

Operations and Maintenance

Delaware River, Philadelphia to Sea	$11,410,000
Delaware River, Philadelphia to Trenton	3,280,000
Schuylkill River	1,400,000
Wilmington Harbor	3,164,000
Chesapeake and Delaware Canal	15,177,000

Planning, Engineering and Design (PED)

Delaware River, Philadelphia to Trenton, Tioga Marine Terminal (PED)	$ 100,000
Salem River (PED)	150,000
Chesapeake and Delaware Canal	550,000

The proposed improvements at Tioga Marine Terminal and at Salem River have been found worthy of improvement and final design is appropriate. There is an urgent need to define further the justifiable improvements in the Chesapeake and Delaware Canal to maximize the benefit of this waterway to accommodate the modern large vessels and accordingly we support this budgeted amount.

However, we must point out that the Delaware River Projects principally carry bulk cargoes which depend upon adequate Project depths. The $11,410,000 in the President's Budget represents an approximate $2,000,000 reduction from the FY 90 level for this line item and with no allowance made for increasing costs. This reduction will result in a decrease in dredging with the consequence of a reduction in vessels' draft. This will impose light loading, greater shipping costs and an increase in lightering on the users of this waterway. The increase in lightering of oil is of particular concern since any additional oil handling increases the opportunity for oil spills. We urge that $2,625,000 be added to the Philadelphia to Sea O. & M. Project as additional capability so that project depths will continue to be maintained in the Delaware River. This will represent increasing the appropriation for operation and maintenance of the Delaware River, Philadelphia to the Sea project from $11,410,000 to $14,035,000.

The Joint Executive Committee also points out that the President's Budget does not provide Planning, Engineering and Design funds for the proposed 45-foot channel in the Project Delaware River, Philadelphia to the Sea. This proposed channel deepening has benefits which will exceed costs. The benefits will accrue on over 60,000,000 tons of bulk cargo which is carried on the Delaware River annually. This deeper channel will also reduce the amount of oil now lightered in Delaware Bay due to inadequate channel depths. The reduction in lightering is a reduction in oil transfer in the Delaware Bay which better insures against oil spills. The proposed improvement will also be a boon to the bulk export cargo of scrap iron and coal from Philadelphia.

Local interests are convinced of the merits of this project and the Delaware River Port Authority has identified themselves as the sponsor for cost sharing. Failure to provide funds for design in FY 91 causes a delay of a year in realizing benefits. In view of this, the add-on of $1,000,000 for Planning, Engineering and Design is merited.

Construction General

Delaware River - Vicinity of Camden (Beckett Street)

This is a request for $3,290,000 of Construction funds which are not now in the President's Budget. This project has been authorized and pre-planning and design for this project will be completed in FY 90. Construction of this project can be undertaken and completed in FY 91 if the Federal share of construction funds are provided. Delay in construction funding merely delays receipt of the benefits which this project will provide. The entire Federal cost of this project is $3,500,000.

The importance of this project to our region is attested by the fact that the current 37' project depth was a result of one of the earliest cost sharing projects in this nation. However, the 37' depth which was completed in 1988 continues as a limitation in obtaining the further economic benefits from deeper draft vessels. Early completion of the 40' depth will provide immediate benefits. The principal export commodities are scrap iron and coal to destinations such as Korea, Turkey and other ports which can receive vessels up to and over 40' draft. Completion of this project will immediately permit vessels which now leave with 37' draft for distant ports to be loaded to 40'. This argues for prompt initiation of construction of the 40' project so that the economic benefits can be achieved and that much needed export tonnage can be increased. Local interests have agreed to provide the required cost sharing for the 40' project as has been done for the recently completed 37' project.

Mni Wiconi Rural Water Project

STATEMENT OF JOE HIEB, CHAIRMAN, LYMAN-JONES WATER USERS ASSOCIATION

ACCOMPANIED BY:

KURT PFEIFLE, MANAGER, WEST RIVER RURAL WATER SYSTEM

JOHN MADDEN, CONSULTING ENGINEER, WEST RIVER RURAL WATER SYSTEM

JOHN GOLDHAMMER, DIRECTOR, WEST RIVER RURAL WATER SYSTEM

Senator **Domenici**. The last group is West River Rural Water System. Kurt Pfeifle, manager.

Mr. **Pfeifle**. Mr. Chairman, my name is Kurt Pfeifle. I am manager of the West River Rural Water System. I will introduce the rest of our group. Here to my immediate left is John Madden, our consulting engineer. To his left is Joe Hieb, chairman of the Lyman-Jones Water Users Association, and to the far left is George

Renning, chairman of the West River Rural Water System. To my right is Paul Goldhammer, director of the West River Rural Water System. Mr. Joe Hieb will be the principal speaker here today with additional comments provided by George Renning.

Senator DOMENICI. Thank you, very much. Please proceed.

Mr. HIEB. Mr. Chairman and members of the committee, I am Joe Hieb, president of the Lyman-Jones Water Users Association. I appear in support of an appropriation for the Mni Wiconi water supply project on behalf of the Lyman-Jones and West River Rural Water Systems. Also in attendance and available to answer questions are George Renning, president, West River Rural Water System, Paul Goldhammer, West River Board member, Kurt Pfeifle, our manager, and our engineer John Madden.

The Mni Wiconi project will provide desperately needed drinking water for a large portion of western South Dakota. The poster display, and you have a copy of it up there, that we are holding up and the pictures that we passed out show the area to be served. The area represents approximately 12,500 square miles of area that needs safe drinking water, and it does not pass the Safe Drinking Water Act standards.

There is a piece of pipe that we have also introduced as evidence. This piece of pipe is representative of the water quality problems that we face. That pipe is plugged with gypsum crystals. It was removed from a private water supply system after only 2 years of service in connection with a deep well. That well is located north of the project area town of Hayes.

We have also seen similar problems with pipe plugged with iron and manganese encrustation. Additionally, many of the wells have high levels of radioactive materials that exceed Safe Drinking Water Act standards. In general, the water is not fit for man or beast to drink. Congress recognized that fact and authorized the Mni Wiconi project. We thankfully acknowledge that this committee has also recognized our problem and last year appropriated $500,000 for the Mni Wiconi project.

In authorizing the project, Congress identified several preconstruction requirements. With the financial assistance from Congress in fiscal year 1990 and the cooperation of the Bureau of Reclamation, we have made significant progress toward completing those preconstruction requirements. Contracts between the respective water systems and the Bureau of Reclamation are in their final stages of development, and we anticipate that all of the fiscal year 1990 funds will be used by the end of this year.

Significant progress has also been made in developing the organizational structure required to implement the project. The Mni Wiconi Project Cooperative has been incorporated under State law and that corporation is being used to accomplish the needs assessment phase for the West River and Lyman-Jones Rural Systems. The cooperative is structured to include representation from the Oglala Sioux Tribe and in that manner may serve as the future project's non-Federal entity.

Although our progress has been not been as fast as we would like to see it, we are making significant progress. If you approve our fiscal year 1991 request of $1.5 million, we will be able to complete all of the preconstruction planning requirements and be ready to initiate the construction in fiscal year 1992. Material that we have submitted in our written testimony outlines our construction requirements for fiscal year 1992 through fiscal year 1995.

In reviewing our budget request, please note the appropriation testimony support provided by not only the Oglala Sioux Tribe and West River and Lyman-Jones water systems but our complete congressional delegation of the State of South Dakota and favorable consideration by the Bureau of Reclamation in their capability statement.

Again, thank you for your time attention. I would be glad to answer any questions that you might have.

[The statement follows:]

STATEMENT OF JOE HIEB

I'm Joe Hieb, President of the Lyman-Jones Water Users Association. I appear in support of an appropriation for the Mni Wiconi Water Supply project on behalf of the Lyman Jones and West River Rural Water Systems. Also in attendance and available to answer questions are George Renning, President, West River Rural Water System; Paul Goldhammer, West River Board Member; Kurt Pfeifle, our Manager; and our Engineer, John Madden.

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We have also seen similar problems with pipe plugged with iron and manganese encrustation. Additionally, many of the wells have high levels of radioactive material that exceed Safe Drinking Water Act standards. In general, the water isn't fit for man or beast to drink. Congress recognized that fact and authorized the Mni Wiconi project. We thankfully acknowledge that this committee has also recognized our problem and last year appropriated $500,000 for the Mni Wiconi project.

In authorizing the project, Congress identified several preconstruction requirements. With the financial assistance from Congress in FY 90 and the cooperation of the Bureau of Reclamation, we have made significant progress toward completing those preconstruction requirements. Contracts between the respective water systems and the Bureau of Reclamation are in their final stages of development and we anticipate that all of the FY 90 funds will be used by the end of this year.

Significant progress has also been made in developing the organizational structure required to implement the project. The Mni Wiconi Project Cooperative has been incorporated under state law and that corporation is being used to accomplish the needs assessment phase for the West River and Lyman-Jones rural systems. The cooperative is structured to include representation from the Oglala Sioux Tribe and in that manner may serve as the future project non-federal entity.

Although our progress has not been as fast as we would like to see it, we are making significant progress. If you approve our FY 91 appropriation request of $1.5 million, we will be able to complete all of the preconstruction planning requirements and be ready to initiate construction in FY 92. Material that we have submitted in our written testimony outlines our construction requirements for FY 92 through FY 95.

In reviewing our budget request, please note the appropriation testimony support provided by not only the Oglala Sioux Tribe and West River and Lyman Jones Water Systems, but our complete congressional delegation, the State of South Dakota and favorable consideration by the Bureau of Reclamation in their capability statement.

Thank you for your time and attention. I would be glad to answer any questions that you might have.

MNI WICONI

WATER SUPPLY PROJECT

FY 91 APPROPRIATIONS REQUEST SUMMARY

FY 91 APPROPRIATION REQUEST

We request that the FY 91 Bureau of Reclamation Appropriation include $1,500,000 for the Mni Wiconi Rural Water Supply Project for the purposes authorized in PL 100-516.

MNI WICONI PROJECT NEEDS

Western South Dakota, including the Pine Ridge Indian Reservation, has severe water quality problems. The "Mni Wiconi Project Act of 1988" (PL 100-516) authorized construction of drinking and livestock facilities to serve a 12,500 square mile area in western South Dakota. Facilities include 2300 miles of pipeline, 17 pumping stations and 6.7 million gallons of water storage. Congress appropriated $500,000 to initiate this project in FY 90. Those funds are being utilized to further the project and will be expended in FY 90.

LOCAL RESPONSE TO AUTHORIZATION AND FY 90 FUNDING

News of congressional support for the project has resulted in additional local and statewide support for the project. New member interest resulted in an increase in household and pasture services in the West River & Lyman Jones systems. Door to door surveys on the Pine Ridge Indian Reservation demonstrate almost unanimous request for water service. These increases were anticipated in the pre-authorization planning.

The South Dakota state legislature appropriated $1,500,000 to be used as non-federal matching funds and the State has entered into contracts with the West River & Lyman Jones RWS to use those funds.

The Mni Wiconi Cooperative, Inc. has been established to serve as the non-federal entity as provided in the Act and the West River & Lyman Jones systems have executed their membership agreements. Contracts with the Secretary are being developed by the Bureau of Reclamation.

PROJECT SUMMARY DESCRIPTION

Project facilities will take Missouri River water from an intake constructed in the power house at the Oahe Dam. The treatment plant will have capacity to treat 8 million gallons per day. Within the 12,500 square mile service area the system will include 2,300 miles of pipeline ranging in sizes from 1-1/2" to 30" in diameter, 17 pumping stations with a combined 5,000 horsepower and 6.7 million gallons of water storage. The total estimated cost indexed to January 1987 is $100 million.

The project will allow municipal, industrial and rural water systems to provide safe and reliable drinking water for the residents of the Pine Ridge Indian Reservation and Lyman, Jones, Jackson, Haakon, Shannon and Stanley Counties. Portions of Bennett, Mellette and Pennington Counties will also receive water from the system.

The project will provide water to 13 municipalities with a population of 5,932 in the West River and Lyman-Jones service areas and 12 Indian communities on the Pine Ridge Reservation with a population of approximately 10,000. A total of over 1,434 rural households will be served individually with an additional 75 households served through existing rural systems. Approximately 730 separate rural pasture locations will be served for livestock watering purposes.

FY 91 APPROPRIATIONS REQUEST

WATER QUALITY AND HEALTH CONSIDERATIONS

Findings of the House of Representatives Committee on Interior and Insular Affairs (Report 100-733; June 27, 1988) are summarized as follows:

- The existing water supplies are extremely high in dissolved minerals. Safe drinking water standards are exceeded at some locations. This poor quality has led to some severe health problems.
- Maintaining reliable, safe and affordable water supplies are a continuing problem.
- The primary water supply source outside the reservation is from ground water wells. These are very deep, highly mineralized and very expensive to construct and maintain.
- Typical rural residents tend to pay from $1,000 to more than $6,000 annually for water supplies, with average annual costs estimated at $5,300.
- On the Pine Ridge Indian Reservation, conditions are even more difficult. The Pine Ridge Reservation suffers from the same problems of water quality and quantity that are experienced in other parts of south central South Dakota. However, in addition to water quality problems, many individual households have no reliable water supply at all.
- One-fifth of all Indian households on the Pine Ridge Reservation were *not* served by a community or individual water system. The percentage of Indian homes without water service on the Pine Ridge Reservation is greater than almost any other reservation.
- In those households with water supplies, the IHS found that water quality is below acceptable standards.
- The reservation has high rates of skin disease, shigella, hepatitis, and high rates of mortality and hospitalization rates for infectious diseases. A portion of these diseases may be attributed to poor environmental conditions, including poor water.
- A recent study done by the non-profit research group Rural Coalition found high levels of potentially harmful elements and minerals in the groundwater aquifers serving Indian reservations in South Dakota, including Pine Ridge. The Coalition also found a linkage between the high levels of radiation in the water and a high incidence of kidney disease on the Reservation.
- The availability of a reliable supply of potable water can be expected to assist efforts by the Tribe to attract new industry and promote economic development to the Reservation.

Additional information previously submitted to the committee demonstrates that an alarmingly high percentage of public water supplies in the project area fail to meet SDWA standards. Public Health Service reports and material submitted by the Oglala Sioux Tribe documents serious health concerns that are associated with existing water quality.

Alternative water sources do not exist. Relocation is not a practical consideration. Continuation of status quo is not in the public interest.

ECONOMIC CONSIDERATIONS

The Lyman-Jones, West River and Oglala Sioux Rural Water Systems are located in west central South Dakota. The reservation and counties to be served by these water systems are among the poorest in the nation.

The current economic base is livestock agriculture and tourism along Interstate Highway 90. The livestock industry is adversely affected by unreliable water supplies that are dependent on drought impacted stock ponds and shallow wells. Highly mineralized water is also detrimental to livestock, particularly small calves, hogs and poultry. The tourism population is severely impacted by intolerable water quality. Tourists unaccustomed to the highly mineralized water commonly experience intestinal discomfort.

New industry will not locate within an area that cannot offer even minimum water supply that meets SDWA standards.

The Mni Wiconi project area faces a third year extension of the "1988 Drought" with no indication that conditions will change soon. The authorized project facilities will serve to offset or eliminate significant drought related stresses on the public water supplies, livestock water supplies, and economic development in the project area.

LOCAL SUPPORT

The Mni Wiconi project has continually received very strong local support. Over 1,430 individual farmers and ranchers paid $300 signup membership fees to support pre-authorization expenses and to request service at their location. They also signed up over 730 pasture locations at $150 each. These are significant increases over similar number reported to you at this time last year. As a condition to signup they agreed to provide pipeline R-O-W easements on their property and to forego compensation as further contribution to the cost of construction. They willingly make these commitments in anticipation of this urgently needed project.

At an August 25, 1986 Senate subcommittee public hearing (S. Hrg. 99-1031) in Kadoka, South Dakota, over 400 appeared in support of the project. **No one testified or submitted testimony in opposition.** Representatives of the Oglala Sioux Tribe requested that service be extended to include the Pine Ridge Indian Reservation.

Public hearings were held throughout the project area during the 1988 Environmental Assessment conducted in response to testimony received during House and Senate Subcommittee hearing held December 15, 1987. **No testimony was received in opposition to the project, or, in opposition to the project because of adverse environmental impacts.**

Governor George Mickelson, the South Dakota Legislature, and the South Dakota Department of Water & Natural Resources have supported the project on numerous occasions. Their support has included significant financial commitments. Their most recent action is the appropriation of $1,500,000 by the 1989 legislature as their contribution to the 35 percent non-federal costs of the Lyman-Jones and West River rural water systems.

The Tribal Chairman, members of the Oglala Sioux Tribal Council and Indian Health Service representatives have testified to the need for the project on the Pine Ridge Indian Reservation. Their only qualification in entering the project is that their participation is not interrupted as a *de facto* adjudication of their water rights.

The Oglala Sioux Tribe, West River Rural Water System and Lyman-Jones Rural Water System have each designated representatives to serve on the Mni Wiconi Project Steering Committee. Their cooperative efforts are resulting in completion of the legislative pre-construction requirements.

UTILIZATION OF FY 90 APPROPRIATIONS

Congress appropriated $500,000 in FY 90 for the Mni Wiconi project. These funds are being used to address the following pre-construction requirements:

A. Completion of a needs assessment.

B. Development of a water conservation plan.

C. Finalization of the service area distribution plan and cost estimate.

D. Collection of baseline environmental data.

E. Bureau of Reclamation oversight.

We anticipate that the total FY 90 appropriation will be used in FY 90.

TILIZATION OF FY 91 AND FOLLOWING YEAR APPROPRIATIONS

The requested funding level will complete the pre-construction phase for the Mni Wiconi project. Timely completion of these efforts will be required to allow initial construction in FY 92. The primary activities include:

A. Completion of the Final Engineering Report.

B. Completion of the Environmental Assessment.

C. Developing the consolidated Water Conservation Plan.

D. Definition of the O & M Plan.

E. The NEPA compliance document.

F. Design data collection and initiation of final design.

G. USBR Oversight.

PROPOSED FEDERAL FY 1991 BUDGET

	West River RWS	Lyman-Jones RWS	Oglala Sioux Tribe	Total Federal Funding
Member System Participation				
Office Supplies & Equipment	$ 6,500	$ 6,500	$15,000	$ 28,000
Transportation	4,000	4,000	10,000	18,000
Telephone & Postage	1,500	1,500	3,000	6,000
Administrative Travel	5,000	5,000	12,000	22,000
Director Expenses	25,000	25,000	30,000	80,000
Staff - Payroll	20,000	20,000	50,000	90,000
- Fringe Benefits	8,000	8,000	20,000	36,000
Legal Services	20,000	20,000	40,000	80,000
	$90,000	$90,000	$180,000	$360,000
Sub Contracted Services				
Final Engineering Report				$250,000
Environmental Assessment				150,000
Consolidated Water Conservation Plan				150,000
Operation & Maintenance Plan				75,000
NEPA Compliance Document				100,000
Plans & Specification for FY 92 Construction				190,000
				$915,000
USBR Oversight				225,000
FY 1991 TOTAL				$1,500,000

PROJECTED FY 92-FY 95 BUDGETS

Fiscal Year	Federal Funds
FY 92	$ 5,500,000
FY 93	11,800,000
FY 94	12,500,000
FY 95	12,500,000

STATEMENT OF GEORGE RENNING, CHAIRMAN, WEST RIVER RURAL WATER SYSTEM

Senator DOMENICI. Let me just ask first if anyone else has any prepared testimony they would like to submit?

Mr. RENNING. I have.

Senator DOMENICI. Did you want to discuss it, or do you want to make it part of the record?

Mr. RENNING. I could read this testimony. It would take about 2 minutes.

Senator DOMENICI. Please do; you can read it.

Mr. RENNING. Mr. Chairman and members of the committee, I am George Renning, chairman of the West River Rural Water System. We are in support of an $1.5 million appropriation for the Mni Wiconi project.

I am a rancher and farmer and live near Kadoka, SD, near the middle of this project area. I have lived there and ranched all my life. Water is important to my life and my ranch livestock.

In my lifetime I have seen the effect of poor water quality and almost no water at all. When the stock ponds dry up, we often have grassland that we cannot use. As the water supply is cut back, we are forced to sell off our livestock. When ranchers have well problems at home, they have to have water trucked in. The water we do have generally does not meet safe drinking water standards.

It has always been that way, but we have a chance to change that now. When people come to visit us, they will not have to bring their own water along. When tourists travel on Interstate 90 through western South Dakota, they will be able to drink the water. That is why I worked for the Mni Wiconi project for over 10 years. I have served in the South Dakota Legislature and understand the hard decisions necessary to make the maximum use of limited dollar resources. I understand that when I ask you to help us build the Mni Wiconi project.

During the authorization process which demonstrated our project need in the past year, we have worked with the Oglala Sioux Tribe, the Lyman-Jones Water System, the State of South Dakota, and the Bureau of Reclamation to get this project started. We have spent over $500,000 of our own money to get the project this far. The South Dakota Legislature has appropriated and set aside $1.5 million dollars to meet the non-Federal match requirements. Every day people call our project office to ask how they can help and when will they get water.

This is a project to deliver quality water to people who are drinking water that people should not be allowed to drink. This is a project to serve as a good example of Indians and non-Indians working together with all levels of government to solve a common problem.

The funds that you appropriated last year are being put to good use. The people in our area take interest and pride in the project and eagerly await its benefits. We have all worked hard and are willing to keep working but we need your help. Thank you for your kind attention.

Senator DOMENICI. Thank you, very much. I ask the engineer: I assume that what we have here is part of the current system?

Mr. **Goldhammer**. It is part of a private system that was installed connected to a deep well in the project location. The water is very highly mineralized, and the resulting gypsum crystals resulted after it was put in use.

Senator **Domenici**. We have the same thing here in a smaller fashion in this piping system that is shown here. This is what we would construct throughout the area for the delivery of water? Is that essentially what this is?

Mr. **Goldhammer**. That is correct; that is the prime delivery system. The total project has 2,300 miles of pipe in, and those are the main lines that would deliver to the cities and then distribution to the rural systems would spring from those lines.

Senator **Domenici**. What is the current means of paying for whatever system is there? Who pays for what is there now? Individual groups? Private people? Communities?

Mr. **Goldhammer**. That system, of course, does not exist. Individual communities have their own wells primarily. Wells in that area vary from 1,800 feet deep on the eastern part of the project to around 3,500 to 4,000 feet deep on the western part of the project. Individual wells and municipal wells extend to that depth, and they pay for that themselves. That is right.

Senator **Domenici**. This would substitute for all of that?

Mr. **Goldhammer**. Yes, sir.

Senator **Domenici**. What is the overall cost?

Mr. **Goldhammer**. Total project cost is an estimated $100 million.

Senator **Domenici**. $100 million to do it all?

Mr. **Goldhammer**. $100 million to do it all. Of that, $65 million is allocated to what is identified as the Oglala Sioux Water Supply System, basically, the main line and distribution system to serve the Oglala Sioux Tribe. The distribution system to serve the non-Indian users is the balance of the $35 million and that portion is a 65/35 cost share. Thirty-five percent non-Federal funding.

Senator **Domenici**. What is the bottom line in terms of the proposal for Federal Government money versus local money? You can break the Federal moneys into Indian and none, if you would like.

Mr. **Goldhammer**. Federal is $87.5 million indexed to January 1987, and then non-Federal to match that would be $12.5 million.

Senator **Domenici**. Of that Federal share, how much do you estimate is to serve Indian needs?

Mr. **Goldhammer**. $65 million.

Senator **Domenici**. Where are the principal Indian populations in this?

Mr. **Goldhammer**. Primarily in the southwest or the lower left hand corner.

Mr. **Heib**. The White River divides it.

Mr. **Goldhammer**. A little better than one-third of the project on the southwest portion of it is the Pine Ridge Indian Reservation.

Senator **Domenici**. Why is their share so big?

Mr. **Goldhammer**. Congress authorized the main delivery system. It was a pipeline to deliver water to the reservation and capacity in that system to serve the non-Indian users along the way as part of the Oglala Sioux system. Basically, they recognized the Federal interest in serving the tribe. In so doing, it was also in the Federal interest to provide capacity to non-Indians en route.

Senator **DOMENICI**. So I guess I would ask you, this is not my State, but we have to end up trying to find not only the $1.5 million but look down the line to what the project is going to cost. Aside from the authorization bill which you allude to in terms of dividing the responsibility, do you have any engineering indication that it is indeed that much of the cost just for the Indians at this point as you finish the project?

Mr. **GOLDHAMMER**. Yes, sir; we have documented that.

Senator **DOMENICI**. All right. Let me ask: Has there been any effort made to see whether non-Indians in this area at large, en masse, are willing to pay for this system in addition to the cost sharing? The cost sharing is also a grant of some type is it not?

Mr. **GOLDHAMMER**. Yes, sir; the authorization requires no repayment of the funds to serve the Oglala Sioux Tribe so there is no cost-sharing requirement.

Senator **DOMENICI**. On the non-Indian is there some cost sharing?

Mr. **GOLDHAMMER**. Yes, sir; 35 percent.

Senator **DOMENICI**. Where does that money come from?

Mr. **GOLDHAMMER**. That comes in several forms. The people who have signed up for the project have paid $300 connection fees just to be listed. The State of South Dakota and the users will share the $12.5 million. We have looked at a $3.5 million bond issue that will be paid, and then additional funds from the State, so the State legislature has already appropriated $1.5 million toward the cost sharing.

Senator **DOMENICI**. Thank you, very much. We have no further questions. If you have any additional comments you want to send to us, although it is not necessary, we do have a record we want to close by April the 20th. I thank you all very much.

ADDITIONAL PREPARED STATEMENTS FOR THE RECORD

I also want to place in the record communications for the State of South Dakota covering both Corps of Engineers and Bureau of Reclamation projects.

The staff also indicates that several other statements on projects in South Dakota have been received by the committee.

If there is no objection, those will be put in the record here.

[The statements follow:]

STATEMENT OF SOUTH DAKOTA DEPARTMENT OF WATER AND NATURAL RESOURCES

The South Dakota Department of Water and Natural Resources (the Department) has reviewed the funding levels for energy and water development programs contained in the Budget of the U.S. Government - FY 1991 as proposed by President Bush. The budget requests for the Civil Works program of the Army Corps of Engineers and the Bureau of Reclamation will dictate South Dakota water development program activities to be undertaken in 1991.

The following provides the FFY 1990 Congressional conference allowance, the Administration's FFY 1991 budget request, and South Dakota anticipated funding needs for water development. The State of South Dakota fully recognizes the non-federal cost share responsibilities for new water development projects and we intend to meet these obligations.

BUREAU OF RECLAMATION

	FFY 1990 CONFERENCE ALLOWANCE	FFY 1991 PROPOSED BUDGET	FFY 1991 SO. DAK.'s REQUEST
General Investigations			
Lake Andes-Wagner/Marty II	0	0	$ 250,000
Black Hills Hydrology Study	0	0	100,000
Southeastern SD Water Supply	0	0	100,000
Construction			
WEB	$14,304,000	$ 945,000	$ 945,000
Belle Fourche	6,765,000	8,024,000	8,024,000
Oahe Unit	65,000	65,000	65,000
Mni Wiconi	500,000	0	2,000,000
Groundwater Recharge	7,300,000	4,500,000	7,300,000
Operation & Maintenance	N/A	$ 471,000	$ 471,000

The Department supports the funding requests for completion of the WEB rural water system construction, continuation of the rehabilitation of the Belle Fourche irrigation project, site safety and security work on the Oahe Unit, and the operation and maintenance budget request for Reclamation activities in South Dakota. Additional funding needs have been identified for General Investigation activities in South Dakota, the Mni Wiconi rural water supply project and the Groundwater Recharge Demonstration program. The General Investigation activities would provide for the Bureau of Reclamation's involvement in the planning phase of the Lake Andes-Wagner / Marty II (LA-W/M) demonstration research program, the Black Hills Hydrology study, and the Southeastern South Dakota water supply system. The LA-W/M demonstration research program will address drainage needs in glacial till soils, selenium management techniques, and the development of best management practices for irrigation. The $250,000 funding level would support design activities and negotiation of interagency and landowner agreements.

With expansion of mining, urban and recreation development in the Black Hills, the potential for adverse effects on the water resources of the region must be addressed. The Black Hills is a complex hydrologic system and data to make informed management decisions regarding increased demand is not available. The Black Hills Hydrology study is an estimated $10 million study effort to evaluate the groundwater and surface water relationships and the quantity and quality of water resources. The requested funding would provide for the Bureau of Reclamation's involvement in an interagency planning group developing a long range comprehensive study plan.

The Southeastern South Dakota water supply system was added to South Dakota's state water resources management system in 1989. The project would deliver Missouri River water to southeastern South Dakota for rural, domestic, and industrial purposes. A nonprofit corporation of interested cities and rural water systems has been formed to coordinate local study efforts and to provide cost share. The requested funding would provide for the Bureau of Reclamation's active involvement in the development of a needs assessment, planning studies, and engineering design criteria.

The Mni Wiconi water supply system was authorized in 1988 and received its initial construction appropriation for FFY 1990 for needs assessment, design criteria, and water conservation plan development. The Bureau of Reclamation is in the process of developing cooperative agreements with the Oglala Sioux Tribe and the Mni Wiconi Cooperative, Inc. to complete these tasks. It is critical that FFY 1991 funding is available for completion of final engineering reports, NEPA compliance activities, and preparation of design specifications to initiate construction in 1992. By October 1, 1990, the indexed Federal cost share will have increased to nearly $96.9 million from $87.5 million. Inadequate funding support will further increase the total cost of the project and delay the delivery of an adequate and safe drinking water supply to 20,000 western South Dakota residents. The completion of the WEB system construction in FFY 1991 provides an opportunity to commit a portion of the Reclamation rural water supply construction effort to another South Dakota project. The Department requests consideration of a $2,000,000 appropriation for Mni Wiconi.

The High Plains States Groundwater Demonstration Program Act of 1983 authorized special studies in seventeen western states, including South Dakota, to assess the potential for recharge of groundwater aquifers. A recharge demonstration site near Huron, South Dakota was selected during the planning phase (Phase I) of this program. The FFY 1991 budget request supports the design, construction, operation, and evaluation phase (Phase II) of the program. Reclamation has indicated that while $8,300,000 would be necessary to fully implement Phase II, the proposed funding level ($4,500,000) would provide for Phase II activities at the South Dakota site. The Department supports maintaining funding support for the groundwater recharge demonstration project at the FFY 1990 level of $7.3 million.

CORPS OF ENGINEERS

	FFY 1990 CONFERENCE ALLOWANCE	FFY 1991 PROPOSED BUDGET	FFY 1991 SO. DAK.'s REQUEST
General Investigations			
James River Basin	$ 175,000	$ 186,000	$ 186,000
Big Sioux River, Sioux Falls	89,000	94,000	94,000
Watertown & Vicinity	171,000	148,000	148,000
Vermillion Basin	0	0	100,000
Planning Assistance to States (Section 22)	30,000	85,000	150,000
Construction			
Missouri River Mitigation	0	0	$1,000,000
Mo. River Bank Stabilization	0	0	3,000,000
Operation & Maintenance			
Gavins Point/Lewis & Clark	$4,225,000	$5,144,000	$5,144,000
Big Bend/Lake Sharpe	5,249,000	6,651,000	6,651,000
Ft. Randall/Francis Case	6,666,000	7,334,000	7,334,000
Oahe/Lake Oahe	8,545,000	8,006,000	8,006,000
Cold Brook Lake	182,000	274,000	274,000
Cotton Springs Lake	158,000	147,000	147,000

The Department supports the proposed funding levels for the following Corps of Engineers' flood damage prevention projects: Big Sioux River, Sioux Falls, SD; James River Basin, SD; and Watertown & Vicinity (Big Sioux River), SD. The Department supports the operation and maintenance budget requests for the four Missouri River mainstem dams and reservoirs and for the Cold Brook Lake and Cotton Springs Lake facilities. Additional funding needs have been identified for the Section 22 Planning Assistance program, a Vermillion Basin flood control study, and for Missouri River wildlife mitigation and bank stabilization efforts above Gavins Point.

The Department requests $150,000 for Section 22 assistance in South Dakota. The Section 22 program provides crucial assistance to the South Dakota water development planning process. In FFY 1989, the Corps provided nearly $160,000 of technical services in South Dakota under the Section 22 program. These services range from lab analyses to assist South Dakota's groundwater quality and lakes improvement programs to intake studies for communities and rural water systems relying on the drought impacted Missouri River for a water supply. The continuing drought and South Dakota's water resources management needs require the increased planning assistance we are requesting.

The Department supports an appropriation for a reconnaissance and feasibility study of the Vermillion River and its tributaries. Flooding in the Vermillion River Basin became much more severe in the 1980s. The South Dakota State Legislature placed the Vermillion Basin flood control study on the state water resources management system in 1987. In 1988, the Vermillion Basin Water Project District was awarded a $50,000 state grant to begin study of flood control alternatives. In 1990, State legislation was passed to provide for the creation of a Vermillion Basin Water Development District to further support project efforts.

Federal Missouri River mitigation and bank stabilization efforts above Gavins Point dam have been funded under the Corps' operation and maintenance budgets while below Gavins Point, line item appropriations have been requested and approved. The Department requests an appropriation of $3,000,000 for bank stabilization activities in South Dakota along the Missouri River above Gavins Point. Bank stabilization at existing Corps recreational facilities is a priority. The low water levels that the mainstem Missouri River reservoirs are currently experiencing provide an opportunity to construct the bank stabilization structures utilizing land based equipment.

The Mni Wiconi authorizing legislation (P.L. 100-516 - Section 6 b.) directed the Corps to develop and submit recommendations for financing and implementing mitigation plans for fish and wildlife losses due to the development of Oahe and Big Bend dams and reservoirs. The Department requests an appropriation of $1,000,000 for mitigation activities in South Dakota along the Missouri River above Gavins Point.

The Department appreciates this opportunity to provide input to the FFY 1991 budget process. The land and water resources of South Dakota provide the economic cornerstones for the state. In this semi-arid region, an aggressive water development program is necessary if we are to remain in the economic mainstream of America. Thank you for your consideration of this testimony.

LETTER FROM FLOYD MATTHEW, SECRETARY, SOUTH DAKOTA DEPARTMENT OF WATER AND NATURAL RESOURCES

March 29, 1990

The Honorable J. Bennett Johnston
Energy and Water Development Subcommittee
United States Senate
Washington, DC 20510-6025

Dear Senator Johnston:

The South Dakota Department of Water and Natural Resources (the Department) submitted written testimony on energy and water development appropriations for FFY 1991. This letter serves to revise the funding level requested for Bureau of Reclamation - General Investigations in South Dakota.

The Department's revision increases the budget authority request for the Lake Andes - Wagner/Marty II research demonstration program to $500,000 from $250,000. This funding level is based on a revised estimate of first year work requirements prepared by the Bureau of Reclamation on March 26, 1990.

Enclosed is a summary of the Department's funding requests by project. If the Subcommittee has any questions or needs additional information regarding these matters, please contact the Department at your convenience.

Your consideration of the Department's testimony is greatly appreciated.

Sincerely,

Floyd Matthew, Secretary
Department of Water and
Natural Resources

BUREAU OF RECLAMATION

	FFY 1990 CONFERENCE ALLOWANCE	FFY 1991 PROPOSED BUDGET	FFY 1991 SO. DAK.'s REQUEST
General Investigations			
Lake Andes-Wagner/Marty II	0	0	$ 500,000
Black Hills Hydrology Study	0	0	100,000
Southeastern SD Water Supply	0	0	100,000
Construction			
WEB	$14,304,000	$ 945,000	$ 945,000
Belle Fourche	6,765,000	8,024,000	8,024,000
Oahe Unit	65,000	65,000	65,000
Mni Wiconi	500,000	0	2,000,000
Groundwater Recharge	7,300,000	4,500,000	7,300,000
Operation & Maintenance	N/A	$ 471,000	$ 471,000

CORPS OF ENGINEERS

	FFY 1990 CONFERENCE ALLOWANCE	FFY 1991 PROPOSED BUDGET	FFY 1991 SO. DAK.'s REQUEST
General Investigations			
James River Basin	$ 175,000	$ 186,000	$ 186,000
Big Sioux River, Sioux Falls	89,000	94,000	94,000
Watertown & Vicinity	171,000	148,000	148,000
Vermillion Basin	0	0	100,000
Planning Assistance to States (Section 22)	30,000	85,000	150,000
Construction			
Missouri River Mitigation	0	0	$1,000,000
Mo. River Bank Stabilization	0	0	3,000,000
Operation & Maintenance			
Gavins Point/Lewis & Clark	$4,225,000	$5,144,000	$5,144,000
Big Bend/Lake Sharpe	5,249,000	6,651,000	6,651,000
Ft. Randall/Francis Case	6,666,000	7,334,000	7,334,000
Oahe/Lake Oahe	8,545,000	8,006,000	8,006,000
Cold Brook Lake	182,000	274,000	274,000
Cotton Springs Lake	158,000	147,000	147,000

STATEMENT OF CECELIA FIRE THUNDER, OGLALA SIOUX TRIBAL MEMBER

Thank you Mr. Chairman and Honorable Committee Members. My name is Cecelia Fire Thunder. I am an enrolled member of the Oglala Sioux Tribe and a resident of Pine Ridge Reservation of South Dakota. Today I am representing the Oglala Lakota Women's Society and the Native Resource Coalition. I am here to inform the Committee and the Congress of the United States that a majority of the Oglala Sioux do not want the Mni Wiconi Water Project that was authorized under Public Law 100-516 on October 24, 1988. Our position is based on the 1868 Fort Laramie Treaty and on a popular referendum on the Mni Wiconi Project that was held on November 14, 1989.

The 1868 Fort Laramie Treaty is a guarantee of tribal sovereignty and assured the Oglala Lakota's perpetual control of the area from the east bank of the Missouri River west to the Powder River and into the Wyoming Big Horn mountains. These are the terms of the Lakota's relationship to the United States, terms which remain in force by virtue of a standing treaty between the United States and the Great Sioux Nation. The Mni Wiconi Bill refuses to recognize the existence of our Indian Reserve Water Rights and our Treaty water rights (Sec. 11, para. (5), P.L. 100-516, Oct. 24, 1988).

The Oglala Sioux Tribal members have exercised their constitutional voting rights and have rejected the Mni Wiconi Water Project in a referendum on November 14, 1989 by a vote of 1,017 against and 873 in favor of the project. The message is clear. The majority of Oglalas do not want the Mni Wiconi Water Project.

After the referendum there were suggestions that our referendum was non-binding. Nothing could be further from the truth. The referendum vote was held in accordance with Article IX of the Oglala

Sioux Tribal Constitution which says that "the vote of a majority of the qualified voters voting in such a referendum shall be conclusive and binding on the tribal council" (copy of Constitution attached).

Before the referendum Senator Tom Daschle (D, S.D.) and the Bureau of Indian Affairs (BIA) interfered with the tribal political process. The BIA spent $135,600 to influence the referendum vote and is still working on the project in spite of the referendum outcome. The Oglala people do not appreciate state or federal interference with our democratic process. Our people have voted the Mni Wiconi Project down and yet the government is still trying to force it on us.

The Mni Wiconi Water Project is not in the best interests of the Oglala people. The primary beneficiaries of the project would be non-Indians who want to use the Oglalas so that they can get water. Before the referendum Senator Daschle and other experts came to our reservation and made outrageous claims for the project. Among other things Daschle claimed our water causes diabetes and made promises that a friend of his who is listed on the Fortune 500 list of companies told him that he would bring a company to the Pine Ridge Reservation if we had good drinking water. The Oglalas saw through such claims and rejected the project. In a television interview following the referendum Daschle insulted us with his interpretation of the outcome; it's hard to work with uneducated people he said.

Our elders say that Missouri River water is Mni Šo še, dirty water, and is not water for people to drink. Senator Daschle and others promoted Mni Wiconi as a Health Project but over 1,000 South Dakota ranchers paid $300 each for South Dakota's matching fund share and 500 stock dams were designated in anticipation of Mni Wiconi. The Project is not a health project for Pine Ridge Reservation but a stock grower's project for off reservation interests. The engineering report cited in the Bill clearly shows that 2/3 of the water would go to off reservation parties even though their contribution is only 12.5 million dollars of the 100 million dollar authorization, and even though there are only 8,000 of them and 20,000 Oglalas.

We have good water beneath our reservation. The comprehensive 1986 study by the Rural Coalition showed that there is plenty of good water in shallow aquifers underlying the Pine Ridge Reservation. That water could be developed for much less than the cost of the Mni Wiconi Pipeline. Many Oglalas do not want a pipeline coming across their land. The pipeline would cause conflicts between tribal government and individual landowners over rights of way.

Public Law 100-516 was poorly constructed and Congress was ill-advised in appropriating money for the Mni Wiconi Water Project. Our tribal leaders did not inform the people about Mni Wiconi until after Congress had already passed the bill. Then we rejected Mni Wiconi through a popular referendum. We ask you to consider and respect the mandate of the Oglala people. We ask you not to fund this project. In this time of democratic changes that are sweeping the world the United States government must recognize democratic processes at home as well as abroad. Thank you Mr. Chairman and Honorable Committee Members.

SPECIAL REFERENDUM

OFFICIAL CERTIFIED RESULTS
NOVEMBER 16, 1989
Donna M. Garnett

	PINE RIDGE VILLAGE	RED CLOUD COMMUNITY	SLIM BUTTES	WOLF CREEK COMMUNITY	BATESLAND	WAKPAMNI LAKE	NO. 4 COMMUNITY	CALICO COMMUNITY	OUR LADY - SIOUX - OGLALA	NO. 6 COMMUNITY	RED SHIRT TABLE	WANBLEE - EAGLE NEST	ALLEN - PASS CREEK	MARTIN - LA CREEK	KYLE - MEDICINE ROOT	POTATOE CREEK - MEDICINE ROOT	NO. 16 - PORCUPINE	SHARPS - PORCUPINE	NO. 7 - WOUNDED KNEE	NO. 12 ROCKYFORD	NO. 10 MANDERSON	CHALLENGE VOTES	ABSENTEE	TOTAL
YES	257	13	8	19	11	7	7	14	105	13	11	42	29	25	60	11	48	15	19	9	52	95	3	873
NO	88	16	7	15	36	17	12	40	115	9	8	66	74	46	123	14	126	22	37	0	58	87	1	1,017
CHALLENGE VOTES																								
-YES -	41	0	2	5	0	0	7	2	14	0	4	3	0	3	4	1	2	0	0	3	4	95		
-NO-	16	0	0	4	2	1	2	2	9	0	1	2	1	7	17	3	12	2	3	0	3	87		

this one issue that brings up the question, are we a government who can make decisions, or are we a government at someone elses mercy. She stated this subject goes beyond educating the people.

Discussion continued. . . .

> MOTION MADE BY DAVID JANIS, SECONDED BY DUANE BREWER TO RESCIND THE PREVIOUS TRIBAL COUNCIL MOTION MADE ON SEPTEMBER 6, 1989, TO SCHEDULE A REFERENDUM VOTE ON THE OGLALA SIOUX RURAL WATER SUPPLY SYSTEM (MNI WICONI).

Discussion continued. . . .

David Janis stated he believed the tribal government should make the decision on the referendum vote.

Wilbur Between Lodges stated the tribal council should go with the decision they made because the people should be given the chance to voice their opinion.

> MOTION MADE BY GERALD BIG CROW, SECONDED BY WILBUR BETWEEN LODGES TO TABLE DAVID JANIS' MOTION AND TO CONTINUE ON WITH THE REFERENDUM VOTE ON THE OGLALA SIOUX RURAL WATER SUPPLY SYSTEM (MNI WICONI), NOVEMBER 14, 1989.

ROLL CALL VOTE:

Melvin Cummings	- No	Duane Brewer	- No
David Janis	- No	Gerald Big Crow	- Yes
Paul Little	- No	Pete Richards	- Yes
Richard Little Hawk	- Yes	Phillip Under Baggage	- Yes
Marvin Ghost Bear	- No	Warren Pourier	- Yes
Terry Weston	- Yes	Charles Bettelyoun	- Yes
David Pourier	- Yes	Wilbur Between Lodges	- Yes

MOTION CARRIED 9 YES; 5 NO; 0 ABSTAIN.

Phillip Under Baggage asked the tribal council if they would consider letting President Iron Cloud negotiating with the Congressional Delegation on state jurisdiction, the Black Hills Claim, the McCarran Amendment, and state taxes and use that to sell to the people.

President Iron Cloud stated he was willing to do that, but to deal with Congress, where there are already laws, there would have to be committee discussion before there would actually be a decision.

Background to Mni Wiconi Referendum

1,017 voted NO and 873 voted YES on the Mni Wiconi Referendum on November 14. The voters rejected the Mni Wiconi Project.

The vote on Mni Wiconi by District:

District	No	Yes
Pine Ridge Village	104	298
Wakpamni District	154	95
White Clay District	142	147
Eagle Nest District	68	45
Pass Creek District	75	29
La Creek District	53	28
Medicine Root District	157	76
Porcupine District	162	65
Wounded Knee District	101	87
Absentee Ballots	1	3
Total Vote	1,017	873

BEFORE THE REFERENDUM ON MNI WICONI

In September 1988 the O.S.T. passed Resolution 88-157 supporting Mni Wiconi and calling for a referendum vote:

"THEREFORE BE IT RESOLVED, that the Oglala Sioux Tribal Council hereby supports H.R. 2772, (Mni Wiconi Bill) only on the condition that the amendments contained in Exhibit "A" of this resolution are included in the final version of the bill passed by Congress. . ."

Amendment 13 of Exhibit A of O.S.T. Resolution 88-157 on Mni Wiconi says:

"SEC. 13. This Act shall not go into effect until it is approved by a majority of the qualified voters of the Oglala Sioux Tribe in a referendum election conducted by the Secretary of the Interior within six (6) months after the passage of the Act and proclaimed by the President of the United States."

On September 6th, 1989 the Oglala Sioux Tribal Council voted to hold the referendum:

"Motion made by Richard Little Hawk, seconded by Phillip Under Baggage to schedule a referendum vote to be conducted on November 15, 1989, on the Oglala Sioux Rural Water Supply System (Mni Wiconi).

ROLL CALL VOTE:

Melvin Cummings	No	Frank Means	No
David Janis	No	Gerald Big Crow	Yes
Steve Hawk	Yes	Pete Richards	Yes
Paul Little	No	Phillip Under Baggage	Yes
Richard Little Hawk	Yes	Warren Pourier	Yes
Marvin Ghost Bear	Yes	Charles Bettelyoun	Yes
David Pourier	Yes	Wilbur Between Lodge	Yes

Motion Carried With 10 Yes; 4 No; 0 Abstain."

(Summary of the Oglala Sioux Tribal Council Meetings Sept 6 & 7, 1989, page 2).

Before the the referendum election Senator Tom Daschle said " **If the reservation says no to this water project then it's going to stop there."** (Lakota Times, Tuesday, September 5, 1989 page 2)

The night before the referendum President Paul Iron Cloud said over KILI Radio that **if the Mni Wiconi Project "is voted down it will not continue."** (KILI Radio Broadcast on November 13, 1989)

AFTER THE REFERENDUM ON MNI WICONI

After the referendum election President Paul Iron Cloud said "It is clear from the results of the referendum that people were confused. . . **It was not a binding referendum"** (Kili Radio interview November 16, 1989.)

After the referendum election Senator Tom Daschle said **"I think it's important for tribal officials to clarify this issue for the reservation. I hold them accountable for that."** (Rapid City Journal, November 16, 1989, page B1)

Prepared by American Friends Service Committee, Oyate Resource Center; Native Resource Coalition; Oglala Lakota Women's Society; and other concerned tribal members.

(From the Lakota Times, Jan. 2, 1990)

OPEN LETTER TO OGLALA SIOUX TRIBAL COUNCIL AND EXECUTIVE COMMITTEE

OST Council and OST Executive Committee Members
Oglala Sioux Tribe

Dear Councilmen and Committee Members,

On November 14 the Oglala people expressed their will on Mni Wiconi. 1,017 voted NO and 873 voted YES. Now there are some officials who are saying that the referendum was "non-binding."

The tribal council and the executive committee did not tell the tribal members that the referendum on Mni Wiconi was non-binding before they went to vote. In fact, President Iron Cloud, said over KILI Radio, the night before the referendum that if the Mni Wiconi Project "is voted down it will not continue." Senator Tom Daschle said about the referendum that "If the reservation says no to this water project then it's going to stop there" (Lakota Times, Tuesday, September 5, 1989). The message to the people was clear: the Mni Wiconi project depends on your vote on November 14.

Now that Mni Wiconi has been voted down the tribal president and some councilmen are saying the referendum was non-binding. In a prepared statement over KILI Radio on November 16 president Iron Cloud said, "It is clear from the results of the referendum that people were confused... It was not a binding referendum." On December 6 at the Mni Wiconi meeting at Piya Wiconi Mr. Pirtle, the OST's attorney for Mni Wiconi, said that the referendum was not binding because no resolution was presented to the people. Frank Means, at the same meeting, said the same thing and added that the September 6 vote of the tribal council to have the referendum was illegal. Can Paul Iron Cloud, Frank Means, and Mr. Pirtle decide whether referendum votes are non-binding?

Do not be misled by Mr. Pirtle about the meaning of the referendum. Article IX of the OST Constitution states:

Section 1. Upon a petition by at least one-third (1/3) of the eligible voters of the Oglala Sioux Tribe, **or upon the request of a majority of the members of the tribal council, any enacted or proposed ordinance or resolution of the council shall be submitted to popular referendum, and the vote of a majority of the qiualified voters voting in such a referendum shall be conclusive and binding on the tribal council."** (Constitution and By-laws of the Oglala Sioux Tribe)

The OST Council voted 10 yes and 4 no to have a referendum vote on Mni Wiconi. That vote was held on September 6, 1989. No one suggested that there was any procedural problem at the time of that vote. No one suggested that there was not a resolution for the people to vote on. That is because everyone understood that the resolution that people would be voting on had already been passed. That resolution, in support of Mni Wiconi, was OST Resolution 88-157, which was adopted on September 28, 1988, by a vote of 9 for and 7 against. Amendment 13 of exhibit A of Resolution 88-157 says that Mni Wiconi will not go into effect unless it is approved by the voters in a referendum election.

The pro-Mni Wiconi group is trying to discredit and mislead the people. Paul Iron Cloud and Frank Means say the people are confused. Tom Daschle said over television that the people are uneducated. The pro-Mni Wiconi group invited the people to a forum on Mni Wiconi on December 6 at Piya Wiconi. The people present were told that Paul Iron Cloud and Marvin Amiotte, who were on the agenda, could not be at the meeting because they were at an FmHA meeting in Rapid City. The Rapid City meeting was also about Mni Wiconi. On the one hand the people are labeled as confused and on the other they are willfully misled by their elected leaders. The people will remember these things when they cast their ballots in the upcoming tribal elections.

Tribal officials exceeded their authority under the OST Constitution when thay declared that the referendum results were non-binding. The referendum on Mni Wiconi is binding. It is up to the Council to speak out on this issue and to let the Oglala people know that when they vote their vote will be respected. It is up to the Council to stop all action on Mni Wiconi now.

Royal Bull Bear
Grey Eagles Society

Myrna White Face
Native Resource Coalition

Oyate Resource Center

Eileen Iron Cloud
Oglala Lakota Women's Society

(From the Rapid City Journal, Nov. 15, 1989)

EARLY RETURNS SHOW MNI WICONI TRAILING

Hugh O'Gara
Staff Writer

PINE RIDGE – Unofficial results from the Pine Ridge Reservation referendum election on the fate of the $100 million Mni Wiconi water project showed it trailing late Tuesday evening.

Opponents of the water project were leading by 938 votes to 765 votes for the project that would bring Missouri River water to the Pine Ridge Reservation and other West River communities.

By late Tuesday, 19 of 21 precincts had reported, election officials said.

Also, 220 of the 1,603 ballots that had been counted were challenged on ground of enrollment in the Oglala Sioux Tribe.

Only enrolled tribal members were eligible to vote in the referendum and election officials said the fate of the challenged votes would not be known until today when they can be checked by the tribal enrollment office.

If any of the challenged votes are valid, they will be counted, election officials said, and if they were cast by voters not enrolled in the tribe, they will be tossed out.

The referendum election on the 2,300-mile pipeline from the Missouri River west was called after reservation residents said there were unanswered questions about the project.

The proposed Mni Wiconi pipeline would carry water to 25 communities in eight western South Dakota counties and the reservation.

Currently, the towns get drinking water from deep or shallow wells while many people on the reservation must haul water to their homes.

About 12,000 reservation residents and 8,000 people living off the reservation would be served by the project.

The Mni Wiconi Act was signed into law by President Reagan in 1988. Congress approved the pipeline from Fort Pierre to the reservation but did not fund its construction. A total of $500,000 in planning money was approved for the project for fiscal 1990.

Officials with Sen. Tom Daschle's office said Tuesday's vote could have an effect on future funds for the Mni Wiconi project. There are other water projects in the nation that could use $100 million in funds, one Daschle aide noted.

However, reservation residents have questioned whether the entire Mni Wiconi story has been told.

Earlier, Eileen H. Iron Cloud, a member of the reservation environmental organization, the Native Resource Coalition, said the group had concerns about the project.

The project was being built for the benefit of non-Indians and could jeopardize Indian water and treaty rights, Iron Cloud said.

Joel Benson, legislative aide for Rep. Tim Johnson, who supported the project, said Tuesday night Johnson would be disappointed if reservation voters defeated the project, but said they would "push forward" with it.

Congressional leaders may try and continue the project for communities outside the Pine Ridge Reservation but any decisions would wait until the last votes are counted, Benson said.

Rich Gordon, an aide to Daschle, another Mni Wiconi supporter, said Daschle was disappointed in the early returns, "but we still hope the final results will be in favor of the project."

Gordon said, "Obviously there is still a lot of misunderstanding on the project on the reservation and the votes reflect that."

(From Lakota Times, Nov. 7, 1989)

MNI WICONI: VOTE NO ON NOVEMBER 14

Background

The Mni Wiconi Water Project would pipe water from the Missouri River to non-Indians in western South Dakota and to residents of the Pine Ridge Indian Reservation. 2/3 of the water would go to off-reservation residents and 1/3 to the reservation. According to the Mni Wiconi Bill, Public Law 100-516, the water would be used for municipal, rural, and industrial purposes in the counties of Haakon, Jackson, Jones, Lyman, Mellette, Pennington, Shannon, Bennett, and Stanley. The scheduled cost of the project is $100,000,000.

History

Residents of Lyman and Jones Counties have been trying to get a water pipeline for more than 20 years. Residents of Haakon, Jackson, Mellette, Pennington, and Stanley Counties have been trying to get a water pipeline for years. They were unsuccessful until 1986 when they included the Oglala Sioux Tribe in their plans. Only by including the Oglalas were they able to get federal support. And yet those non-Indian users will get 2/3 of the water, according to O.S.T. officials.

Limited Service Area For Mni Wiconi

O.S.T. Mni Wiconi Office and Senator Daschle say that all reservation residents will be served by the pipeline. Their claim is not backed up by the Mni Wiconi Bill. The Mni Wiconi Bill clearly states that only those communities noted in the 1988 engineering study will get water. That study showed that LaCreek District, Red Shirt Village, Batesland, and Wakpamni will not get water.

Now they tell us they are doing a new engineering study that will include those communities. Should we believe what they are saying? - that every household on the Pine Ridge Reservation will have pipes running to it from the Mni Wiconi pipe? In the Oglala Sioux Tribe's "Use It Or Lose It" video on Mni Wiconi Senator Daschle says there will be 150 miles of pipeline on the reservation. That is not enough to go to all of the communities. It is certainly not enough to go to every home that wants it.

Can You Afford Mni Wiconi?

Senator Tom Daschle told Congress that "The consumers in the project area, which includes the poorest county in America, are willing to bear a significant portion of the cost of this project." According to the Oglala Sioux Tribe's own handout your bill will be at least $27.90 per month if your family uses 100 gallons of water per day. The average household uses much more than 100 gallons per day. Some O.S.T. officials and employees are saying that we won't have to pay. The facts say otherwise.

Who Is Pushing Mni Wiconi?

The state of South Dakota, Senator Daschle and the BIA have played the key roles in promoting the Mni Wiconi Project. They are working to get water for mining and ranching interests. South Dakota and the BIA are working for the benefits of off reservation interests. Daschle says that by using Mni Wiconi water we would be protecting our water rights. He says he is working in our own best interests. This is the same Senator Daschle that opposed the Bradley Bill and helped found the Open Hills Association, the organization formed to oppose the return of the Black Hills to the Sioux. The BIA has been working quietly behind the scenes to promote Mni Wiconi. The BIA gave $135,600 to the O.S.T. for Mni Wiconi promotion. $10,000 of that money was designated for the "Use It Or Lose It" video. One individual was contracted at $25/hour for sixty days to provide community education on the Mni Wiconi Project. Now 16 surveyors are being paid $8/hour to ask the people about their current and future needs. (But, the Mni Wiconi Bill does not even provide for future needs!) Why can't our tribal leaders, the BIA and Senator Daschle work together to provide funds for us to drill for the good water that lies beneath the reservation?

Getting Good Water Now

We need clean, safe drinking water and we need it now. Some say Mni Wiconi is the answer but it would take 9 years to get that water. Meanwhile we are sitting on top of large reservoirs of underground water (aquifers). One of those is the Oglala aquifer According to the 1986 study by the Rural Coalition there is plenty of good water in shallow aquifers underlying the reservation. The study also showed that there are several deeper aquifers that underlie the Pine Ridge Reservation that could provide water but are not used.

In the Mni Wiconi Bill the U.S. Government says that "the United States has a trust responsibility to ensure that adequate and safe water supplies are available to meet the economic, environmental, water supply, and public health needs of the Pine Ridge Indian Reservation" (Section 2 (a) (4)). Since that is so we must demand that good wells be drilled immediately so that we can have good water soon and not 9 years from now. That water would be controlled by us. The Mni Wiconi project would be controlled by the state of South Dakota.

Mni Wiconi and South Dakota State Court

If a legal dispute occurs over the Mni Wiconi Project the Oglala Sioux Tribe will be forced to seek resolution in South Dakota State Court. We would end up in state court instead of federal court because of the McCarran Amendment. According to the O.S.T.'s handout the McCarran Amendment "provides state court judges with power to determine how much water Indian tribes are entitled to." Mni Wiconi means state jurisdiction.

-STOP-
Mni Wiconi, Public Law 100-516

About Mni Wiconi

On November 14, 1989 Oglalas will decide in a reservation wide referendum whether they want Mni Wiconi or not. Mni Wiconi would pipe water from the Missouri River to Lyman and Jones Counties and to the Pine Ridge Reservation. The Oglala Sioux Mni Wiconi Rural Water Supply Project was authorized by Congress on October 24, 1988. The O.S.T. Council agreed to support Mni Wiconi under O.S.T. Resolution 88-157. The Natural Resources Department of the Oglala Sioux Tribe has sponsored several informational forums. Yet they have not answered significant major questions on the long-term social and economic effects of the proposed pipeline nor have they adequately addressed the impact of the the project on the water rights included in the 1868 Ft. Laramie Treaty. We present the following issues for your benefit in making your decision in the referendum election.

Mni Wiconi and the 1868 Ft. Laramie Treaty

- **Mni Wiconi undermines the 1868 Ft. Laramie Treaty.** Article 2 of the Treaty recognizes the east bank of the Missouri River as a legal boundary. The Treaty includes the Missouri River and it is the basis for our rights to Missouri River water. The Mni Wiconi Bill does not protect nor guarantee Treaty rights. This important issue will be addressed more fully at the meeting on October 25 (see below).

Mni Wiconi and Water Rights

- **Mni Wiconi will affect Indian water rights.** Mni Wiconi could be used to determine how much water Oglalas are entitled to. The federal government or the state government could point to Mni Wiconi and claim that the Mni Wiconi pipeline water represented the Oglalas share of the Missouri River water. In short, Mni Wiconi is water quantification. If we accept Mni Wiconi our water rights will be jeopardized.

Mni Wiconi and Indian Water Law

The cornerstone of Indian water law is the "Winters Doctrine." The Winters Doctrine is the Doctrine of Reserved Rights. O.S.T. officials and employees are misleading people when they say "Use It Or Lose It." "Use it or lose it" is the name of the O.S.T. video that is being used to campaign for Mni Wiconi. Mni Wiconi supporters are implying that if we do not support the Mni Wiconi Pipeline we will lose our right to the use of Missouri River water. Their claim is misleading. Our water rights are not lost by non-use. Even if non-Indians are already using the water our rights take precedence. This is the main point of the Winters Doctrine and the Winters Doctrine has been upheld over the years by a series of U.S. Supreme Court Decisions. Those who say "Use It Or Lose It" must not know about the Winters Doctrine and its importance to Indian water rights.

Mni Wiconi and Your Water Bill

- **Mni Wiconi water will not be free.** You will pay for the cost of moving the water through the pipes from the Missouri River. If extra electricity is needed to move the water the Mni Wiconi Bill authorizes the administrator of the Western Area Power Administration to pass the costs on to the water supply systems. That means that part of that cost will be passed on to the O.S.T. The O.S.T. will then charge you, the consumer, for the use of the water. Simply put, **you will have a regular water bill to pay and the price will go up if electric costs rise.**

Who Gets The Water?

- **Non-Indians living off of the Pine Ridge Reservation will get approximately 2/3 of the water coming through the Mni Wiconi pipeline.** Non-Indian residents on Pine Ridge Reservation will also be eligible for Mni Wiconi water. 8,000 off reservation non-Indians will get about 2/3 of the Mni Wiconi water and Pine Ridge Reservation residents will get about 1/3. Yet Mni Wiconi is being presented as water for Indians.

Come to Porcupine CAP Office on October 25 at 6 p.m. All interested persons are asked to attend for an update on Mni Wiconi. A meal will be provided.

Prepared by the Native Resource Coalition, P.O. Box 93, Porcupine, S.D., 57772

Mni Wiconi, Public Law 100-516
-STOP-

Mni Wiconi: Vote No on November 14

Mni Wiconi and Your Water Bill

* Mni Wiconi water will not be free. We will pay for the water. The O.S.T. will charge us for the water. We will have a water meter. We will have a regular water bill. We will have to pay for our own water - the water that is guaranteed to us under the 1868 Ft. Laramie Treaty!

Scare Tactics

* O.S.T. employees and Senator Daschle are claiming that all of the water on the Pine Ridge Reservation is contaminated. These are scare tactics. In fact, the 1986 study by the Rural Coalition concluded that there is plenty of good water in shallow aquifers underlying the reservation. The study also showed that there are several deeper aquifers that underlie the Pine Ridge Reservation that could provide water but are not used.

Alternatives to Mni Wiconi

* Mni Wiconi is scheduled to take up to 9 years to complete. We need water now. There are good sources of water beneath the reservation and we could get good quality water by drilling new wells into the shallow aquifers below us that contain large quantities of good, safe water. And we would control our own water supply. Instead, the U.S. Government and the State of South Dakota are using the Oglalas so that they can get water for non-Indians living in western South Dakota. 2/3 of the water from Mni Wiconi is supposed to go to those non-Indians.

Prepared by the Native Resource Coalition, P.O. Box 93, Porcupine, S.D., 57772
Factsheet Number 2 on Mni Wiconi

Service Area for Mni Wiconi

O.S.T. Mni Wiconi Office and Senator Daschle say that all reservation residents will be served by the pipeline. Their claim is not backed up by the Mni Wiconi Bill. The Mni Wiconi Bill clearly states that only those communities noted in the 1988 engineering study will get water. That study showed that LaCreek District, Red Shirt Village, Batesland, and Wakpamni will not get water.

Now they tell us they are doing a new engineering study that will include those communities. Should we believe what they are saying? - that every household on the Pine Ridge Reservation will have pipes running to it from the Mni Wiconi pipe? Have you seen a plan?

Prepared by the Native Resource Coalition
Factsheet #5 on Mni Wiconi

STUDY BY RURAL COALITION OF GROUND WATER QUALITY ON NINE RESERVATIONS

CHAPTER 8. PINE RIDGE RESERVATION GROUNDWATER QUALITY

A) Summary of Aquifers Under the Pine Ridge Reservation

The Pine Ridge Reservation has four kinds of aquifers under it: alluvial, windblown sand, bedrock, and deep artesian.

Alluvial aquifers are old river terraces (beaches) are located in river valleys across the Reservation. Some of these aquifers can supply plenty of water to household or livestock wells. Their water table can move up and down depending on the amount of rainfall. Alluvial aquifers sitting on top of Pierre Shale bedrock have bad water quality, but alluvial aquifers in other rock types can have good water. (The Pierre Shale is at the surface mainly along the White River.)

Windblown sand aquifers are found in the sandhills in the southern part of the Reservation. These aquifers can generally support quite a bit of good-quality water. The water table goes up and down depending on rainfall, though.

Bedrock aquifers are located under the Reservation, and are called the Ogallala, the Arikaree, and the White River aquifers. Sometimes the Ogallala and the Arikaree are lumped together and called the High Plains Aquifer.

The Ogallala (with its Valentine Formation) comes up from the south into the southern part of the Reservation. It usually has plenty of good-quality water.

The Arikaree covers most of the Reservation except for the northern and western parts along the White River. It usually has plenty of good quality water. It is the most common source of water on the Reservation. Martin and Pine Ridge get their water supply from the Arikaree aquifer. This aquifer could be developed further for irrigation.

The White River Group (with its Brule and Chadron Formations) lies under the northern and western parts of the Reservation. In certain places it could be used for well water, but not generally.

Deep artesian aquifers exist under the Reservation. They include the Dakota Sandstone, the Inyan Kara, and the Minnelusa (under the entire Reservation), and the Madison and Red River (under the northern part of the Reservation). None of these deep aquifers is used on the Reservation because there is plenty of good water in shallower aquifers, which are cheaper to drill for. The water quality in these deep aquifers is usually quite saline (salty).

STATEMENT OF GARY HANSON, UTILITIES COMMISSIONER, SIOUX FALLS UTILITIES

I am aware that a request by the State of South Dakota has been made for a $100,000 appropriation in the Bureau of Reclamation's federal fiscal year 1991 budget for the Southeastern South Dakota Water Supply. The requested funding would provide for the Bureau of Reclamation's active involvement in the development of needs assessment, planning studies, and engineering design criteria. Reclamation's involvement at this time will assure that all pertinent technical requirements are addressed. I urge you to support the State's request as I believe these funds are vital to the future economic well-being of South Dakota.

As a charter member of the Southeastern South Dakota Water Supply System, Inc., I am extremely concerned with the water quality and quantity situation in southeastern South Dakota. Adequate supplies of good quality water for domestic and industrial uses are critical to ensuring continued economic viability and growth in southeastern South Dakota.

Studies have shown that the future water supply needs for this area will not be adequate. It appears that the Missouri River is the most viable source for our future needs. The Southeastern South Dakota Water Supply System, Inc., was formed to study the feasibility of using Missouri River water to meet future water demands. Local support for our project has been demonstrated by the signing of a Memorandum of Understanding by 18 local communities and all nine rural water systems located in this area. Additionally, close to $70,000 has been raised by project sponsors to provide a local cost share for our feasibility study. It is evident that we are committed to our project and its future development.

I appreciate the opportunity to provide input on the Bureau of Reclamation's federal fiscal year 1991 budget. I thank you in advance for your consideration of my comments.

STATEMENT OF SOUTH DAKOTA ASSOCIATION OF RURAL WATER SYSTEMS

I am aware that a request by the State of South Dakota has been made for a $100,000 appropriation in the Bureau of Reclamation's federal fiscal year 1991 budget for the Southeastern South Dakota Water Supply. The requested funding would provide for the Bureau of Reclamation's active involvement in the development of a needs assessment, planning studies, and engineering design criteria. Reclamation's involvement at this time will assure that all pertinent technical requirements are addressed. I urge you to support the State's request as I believe these funds are vital to the future economic well-being of South Dakota.

As an organizational member of the Southeastern South Dakota Water Supply System, Inc., I am extremely concerned with the water quality and quantity situation in southeastern South Dakota. Adequate supplies of good quality water for domestic and industrial uses are critical to ensuring continued economic viablity and growth in southeastern South Dakota.

Studies have shown that the future water supply needs for this area will not be adequate. It appears that the Missouri River is the most viable source for our future needs. The Southeastern South Dakota Water Supply System, Inc. was formed to study the feasibility of using Missouri River water to meet future water demands. Local support for our project has been demonstrated by the signing of a Memorandum of Understanding by eighteen local communities and all nine rural water systems located in this area. Additionally, close to $70,000 has been raised by project sponsors to provide a local cost share for our feasibility study. The system area will cover some 36 towns and nine rural water systems with a combined population of over 195,000. It is evident that we are committed to our project and its future development.

I appreciate the opportunity to provide input on the Bureau of Reclamation's federal fiscal year 1991 budget. I thank you in advance for your consideration of my comments.

SANTE FE STREAMBANK EROSION PROJECT

Senator **DOMENICI**. Let me play witness for a moment. We have a $300,000 appropriation item for Santa Fe stream bank erosion project. Obviously, it is in Santa Fe, NM. We are hearing now from the Corps of Engineers that they cannot spend that $300,000 for the erosion work because the contention is that the way it is appropriated, it is for a special type evaluation which does not permit them to use the money for the purposes we intended.

We tried to rectify it on the floor and did not get it done by way of a colloquy on the House side. I just want to insert in the record that we will not need additional money. We just need authority to make sure they can spend it for the purposes that we intended.

TECHNOLOGY TRANSFER PROGRAMS OF NATIONAL LABS

Second, I would like to just talk a minute on the record about technology transfer and the national laboratories that are under the jurisdiction of the Department of Energy. With the passage of the New Technology Transfer Act by the Congress last year and a growing concern about using the national laboratories technology and science for the private sector, there is a growing enthusiasm for technology transfer activities in the country, and each of the national laboratories, certainly, the two in the State of New Mexico are being faced with enormous requests for consortia or the kind of arrangements that will yield some technology transfers to the private sector.

It is beginning to be big enough and the commitment seems to be deep enough that the culture is beginning to change for the positive both on the private side and the public side. I am concerned because the enthusiasm is ripe. We will insert in the record a news story about some very exciting consortia approaches in areas of extreme deficiency in terms of development of technology in America.

[The article follows:]

[From the Washington Post]

ENERGY DEPARTMENT TO HELP TWO HIGH-TECH INDUSTRY GROUPS

By Cheryl Pellerin
Special to The Washington Post

The Department of Energy is preparing the way to support two industry consortia that would draw on major government laboratories and scientists to help revitalize U.S. companies in the critical fields of specialty metals and precision machining.

Over the next few months, nearly a dozen companies and industry groups are expected to sign agreements that allow them to work side-by-side with Energy Department scientists and engineers, using the nation's most advanced technology.

The two new programs, being created with at least $4 million in federal seed money over a five-year period, are the Advanced Manufacturing Initiative Consortia and the Specialty Metals Processing Consortia. The participating companies are expected to be identified after contracts are signed in the next few weeks.

The manufacturing program is expected to draw on the Energy Department's huge reservoir of experience with state-of-the-art machine tools used in the nuclear field, while the metals consortium will concentrate on developing lighter, stronger metals for commercial use.

The Energy Department's Defense Programs office created the consortia after the 1989 National Competitiveness Technology Transfer Act modified laws governing the agency's weapons program, giving it broad new authority to explore methods for transfer of technologies. The modified law juggles enthusiasm for technology commercialization with cautious language that warns against jeopardizing national security.

U.S. companies have had only limited access to the Energy Department's traditionally secretive nuclear weapons labs. But the consortia project offers unprecedented access to such resources as $7 billion-plus budget, $100 billion in facilities, 6,200 scientists and 11,300 engineers, said Brian Seibert, director of the defense program's Office of Classification and Technology Policy at the Energy Department.

The hand-in-glove way German and Japanese industries work with their governments gives them "substantial advantages over this country," Seibert said, "where occasionally the government works with the private sector and other times it seems not to."

According to officials familiar with the program, the companies in the consortia will have access to some of the nation's most advanced national laboratories: Sandia National Laboratory i Albuquerque in the fields of weapons, commercia and defense radioactive waste and robotics; Lo Alamos in New Mexico in weapons, nuclear materials production, magnetic fusion and superconductivity; and Lawrence Livermore Laboratory i Livermore, Calif., in software, biotechnology, advanced materials, precision engineering, laser an electro-optic technology.

Consortium members are expected to contribute their own development funds, direct their ow research, and assume responsibility for quickl turning the research into commercial product Seibert said.

Through the Energy Department's Albuqueque operations office, the Sandia lab will collabrate in specialty metals research with eight indutrial partners. Commercial applications for such strong, lightweight metals include products for aerospace, medicine and dentistry, microelectronics and a range of industrial uses.

The results of the research will be protected for three years so U.S. industry can get a head start on competitors. Seibert said the Energy Department can't force U.S. companies into the commercial market, but hopes market forces will encourage them to take quick advantage of the innovations that spring from their research.

If the project succeeds, officials said, the consortium will be able to fund itself in five years, and the Energy Department will move its seed money to another industry hard-hit by foreign competition.

The Advanced Manufacturing Initiative Consortium is being coordinated by a special contractor, Martin Marietta Energy Systems, through the agency's Albuquerque operations office. It will focus on precision machining technology.

Working through the 120-member National Center for Manufacturing Sciences (NCMS) in Ann Arbor, Mich., the Energy Department will pull together industrial partners to work in a range of manufacturing activities.

The industry is "absolutely interested in a program like we're proposing in precision manufacturing technology," said Fred W. Jones, director of the Precision Manufacturing Technology Program at Martin Marietta Energy Systems in Oak Ridge. "We've had several meetings with the NCMS, the National Manufacturing Association and industry people. The main message is that we have a lot of good technology in this country, but it's not getting out to the smaller, second-tier manufacturing companies."

A primary thrust of the consortium, he added, will be to establish teaching factories to share manufacturing technology with smaller companies, giving them direct access to manufacturing equipment and people that know how to use it.

Several Energy Department production facilities nationwide could house the factories, including Y-12, a 6,000-employee Oak Ridge production plant that manufactures nuclear weapons components for the Energy Department.

Jones said Martin Marietta is working closely with the National Institute of Standards and Technology in Gaithersburg, which also has a program to help restore U.S. manufacturing. ■

Senator DOMENICI. It seems to me that we have to make sure that we continue to encourage this activity by seeing to it that the laboratories have enough resources to do it or that they are adequately protected within their mission oriented funding so that if they do this work, they are not subject to attack on the basis that they are using the resources for something than the mission.

I urge that the professional staff, and I understand the minority staff has been approached on this, and I would ask that the other staff considering getting a briefing from the Department of Energy because this is beginning to be something exciting for the country and serious, and many members of this subcommittee are aware that this is an untapped resource, and we surely do not want to extinguish it now that we have got it started, and it seems to be a meaningful approach, which was very, very difficult to put together.

It seems to me we have to look at the $11.5 or $11.1 million requested by DOE both from the standpoint of its current adequacy and from the standpoint of its flexibility to do the kinds of things that the various laboratories might want to do. I am convinced that, ultimately, we are going to have to create some flexible resources in these laboratories for this purpose.

We are not prepared to discuss that yet, but it seems to me that if you are going to use their resources properly, you have got to give them some flexibility to accumulate their resources in new modes and new ways and that may require some authorization, but for now, it seems that we should not shortchange this very important activity, and the subcommittee will retain significant jurisdiction in this area as these laboratories become more used by the private sector.

ADDITIONAL PREPARED STATEMENTS SUBMITTED FOR THE RECORD

Before we conclude the hearing, the staff tells me that the subcommittee has received many additional prepared statements covering projects in the States we have heard today, not the least being a statement from the Governor of New Mexico.

All of those statements and any others received within the normal guidelines will be made part of the record.

[The statements follow:]

STATEMENT OF GOV. GARREY CARRUTHERS OF NEW MEXICO

SUMMARY

This statement is submitted in support of appropriations for the construction and operation and maintenance of water resource projects authorized to be built by the Bureau of Reclamation and of appropriations for additional project investigations by Reclamation.

The President's Fiscal Year (FY) 1991 budget proposal for water resource projects of the Bureau of Reclamation in New Mexico and other states in which New Mexico has an interest appears sufficient, in light of the current budgetary constraints, to sustain progress on implementation of scheduled project construction and measures for salinity control of the Colorado River. In addition, the President's FY 1991 budget proposal for Reclamation's General Investigations and Operation and Maintenance programs provides for needed investigations and required operation and maintenance at operating projects. I fully support the President's FY 1991 budget proposal for all water resource projects of the Bureau of Reclamation that are of interest to New Mexico.

STATEMENT

COLORADO RIVER STORAGE PROJECT AND PARTICIPATING PROJECTS

The Colorado River Storage Project which became law in 1956 authorized a carefully planned and farsighted program for the development and use of waters of the Upper Colorado River Basin. To carry this program forward the President has recommended that $172.031 million be appropriated to the Bureau of Reclamation for FY 1991. That recommendation includes $13.415 million for the Animas-La Plata Project in Colorado and New Mexico, a project of keen interest to this state.

I fully support the President's FY 1991 budget proposal for the Colorado River Storage Project and participating projects.

CENTRAL ARIZONA PROJECT

The Colorado River Basin Project Act, Public Law 99-537, which became law in 1968 authorized construction of the Central Arizona Project in Arizona and New Mexico. The President's FY 1991 budget proposes $198.466 million to continue construction of this project. All of the construction proposed in the FY 1991 budget is in Arizona. The Hooker Dam and Reservoir Unit or suitable alternative in southwestern New Mexico is authorized for construction as a unit of the Central Arizona Project. I support the President's FY 1991 budget proposal for funding the Central Arizona Project.

CLOSED BASIN DIVISION, SAN LUIS VALLEY PROJECT, COLORADO

The President's FY 1991 budget includes $6.810 million for continued construction of the Closed Basin Division. This project will assist Colorado in meeting its Rio Grande Compact obligation at the Colorado-New Mexico stateline. The work proposed under the FY 1991 budget will include completion on the Stage 4 laterals, award contracts for Stage 5 pumps and prime movers, construct Stage 5 laterals and required appurtenant works. I fully support the President's FY 1991 budget in the amount of $6.810 million for this project.

BRANTLEY DAM AND RESERVOIR

The President's FY 1991 budget includes $500,000 for miscellaneous minor contracts to complete Brantley Dam and Reservoir and to breach McMillan Dam. Brantley Dam and Reservoir, located in southeastern New Mexico on the Pecos River, was dedicated in May 1989 and has continued in operation. Brantley Dam will replace the unsafe McMillan Dam and will provide capacity for storage of flood waters. I fully support the President's FY 1991 budget proposal in the amount of $500,000 for this project.

BUREAU OF INDIAN AFFAIRS DAM SAFETY PROGRAM

The President's FY 1991 budget includes $9.055 million for the technical activities and administration necessary to examine, analyze and perform corrective actions at Bureau of Indian Affairs dams in Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, South Dakota, Utah and Wyoming. About 52 dams with high or significant hazard classifications are involved. The safety of dams analysis activities include deficiency verification and conceptual modification designs. I fully support the President's FY 1991 budget proposal for this program.

COLORADO RIVER BASIN SALINITY CONTROL PROJECT, PUBLIC LAW 93-320, TITLE I

The President's FY 1991 budget includes a total of $14.295 million for work to complete the Yuma Desalting Plant and furnish plant equipment. Work will also begin on the Biocide Handling and Storage Facilities and on Fish and Wildlife Facilities. I support the President's FY 1991 budget proposal for this project.

COLORADO RIVER BASIN SALINITY CONTROL, PUBLIC LAW 93-320, TITLE II

The President's FY 1991 budget includes $22.838 million for continued construction of three salinity alleviation units authorized by Title II of Public Law 93-320, the Grand Valley and Paradox Valley Units and Lower Gunnison Basin, Stage 1, all in Colorado.

The Colorado River Basin Salinity Control Forum comprised of representatives of all of the seven Colorado River Basin states has carefully re-examined all of the features needed to control the salinity of the Colorado River and recommended in the Colorado River Basin Salinity Control Advisory Council Report a slightly higher appropriation for FY 1991 for construction of these units. However, in consideration of the current budgetary constraints, the Forum believes that the President's requested appropriation is sufficient to sustain progress on scheduled measures for salinity control and supports that appropriation. I fully concur with this recommendation of the Colorado River Basin Salinity Control Forum.

GENERAL INVESTIGATION PROGRAM

The President's FY 1991 budget for general investigations includes $200,000 for a new study to be cost-shared between the state of New Mexico and Reclamation. The object of the study will be to update water resource and related data by hydrologic unit within the state.

The President's FY 1991 budget includes $935,000 for general investigations and plan formulation for additional units of the Colorado River Water Quality Improvement Program in the Colorado River Basin. The proposed budget would include studies of the Price San Raphael Unit (Utah), the San Juan River Unit (New Mexico), and the Glenwood-Dotsero Unit (Colorado), plus non-point salinity source investigations and overall program cost effectiveness.

I support the President's FY 1991 budget proposal for both of these general investigation items.

OPERATION AND MAINTENANCE PROGRAM

I support the President's FY 1991 budget for operation and maintenance of the following Bureau of Reclamation projects in New Mexico and adjacent states in which New Mexico has an interest:

1. Brantley Project, $258,000;
2. Carlsbad Project, $38,000;
3. Middle Rio Grande Project, $7,279,000;
4. Pecos River Basin Water Salvage Project, $270,000;
5. Rio Grande Project, $3,639,000;
6. Closed Basin Division, San Luis Valley Project, $1,601,000;
7. Grand Valley Salinity Control Unit, $295,000;
8. Paradox Valley Salinity Control Unit, $160,000.

The opportunity to present this statement in support of appropriations for the Bureau of Reclamation for FY 1991 is sincerely appreciated.

STATEMENT OF JERRY C. STRAUS, HOBBS, STRAUS, DEAN & WILDER

This letter is submitted in lieu of oral testimony on behalf of the Pueblo de Cochiti, which seeks funding for the final design phase of a project to resolve the problem of high groundwater on Pueblo lands as a result of seepage from the federally constructed Cochiti Dam. After fourteen years of conflict, the Pueblo de Cochiti and the United States Army Corps of Engineers are nearing agreement on a solution which would construct and maintain a system to drain the agricultural lands and restore them to usefulness. In addition, the agreement under negotiation would compensate the Cochitis for their past losses. These negotiations are themselves in implementation of the congressional directive in Pub. L. No. 100-202, which directed the Corps of Engineers to design such a system in consultation with the Pueblo de Cochiti and reach a settlement, if possible, with the Pueblo.

Agreement has been reached on most major issues, and discussions are continuing to resolve the last details of the settlement package. We anticipate that the cost of a complete resolution of the seepage problem will be approximately 11.2 million dollars, in 1989 dollars. When discussions are concluded with the Corps of Engineers, the parties will submit a full report and funding proposal to the Congress. At present, the Pueblo's funding request is limited to the $300,000 necessary to complete the design phase of the project.

BACKGROUND

1 Cochiti Dam

Cochiti Dam is located approximately 1582 miles above the mouth of the main stream of the Rio Grande in north central New Mexico. The project is about 50 miles north of Albuquerque and about 25 miles south of Santa Fe, the state capital. The dam is located at the lower end of the rugged White Rock Canyon on Pueblo de Cochiti lands and extends across the Rio Grande and Santa Fe River. Cochiti Lake is about 20 miles long at maximum flood control pool. The Recreation pool extends about 6.5 miles upstream from the dam and has a surface area of about 1200 acres.

Congress authorized Cochiti Dam in the 1950 Flood Control Act as part of the comprehensive flood control and water development plan for the Rio Grande. Cochiti Dam is one of the ten largest earthfill dams in the United States, containing more than 65,000,000 cubic yards of earth and rock. Originally, Cochiti Dam was authorized only for flood and sediment control. However, in response to local New Mexico state and county officials, Congress modified its authorization to include a permanent 1200 surface acre lake for fish and wildlife enhancement and other recreational purposes.

Construction of Cochiti Dam began in 1965; the main embankment was completed in 1975; and the lake opened to the public in July, 1975. Cochiti Lake is an all Federal project constructed at an approximate cost of $97 million (approximately $180 million at 1989 price levels). The project controls water from an 11,695 square-mile drainage area. The dam's flood control capacity is 492,500 acre-feet, with an additional 103,800 acre-feet allocated for sediment control. The permanent recreation pool behind the dam presently consists of some 50,000 acre-feet of water.

II. Pueblo de Cochiti

The Pueblo de Cochiti is a federally recognized Indian tribe of approximately 920 members, residing in the Pueblo de Cochiti Indian Reservation, Sandoval County, New Mexico. The ancestors of the present Pueblo members have lived in the area for more than a thousand years, at one time occupying the site of the present Bandelier National Monument upstream of Cochiti Lake. The present Pueblo boundaries encompass an area of 53,000 acres of semi-arid land. Of this area, approximately 800 acres have traditionally been devoted to agriculture. Cochiti Dam and its associated lake occupy 11,000 acres of the Pueblo's ancestral land. In return for a perpetual easement of 4,064 acres granted to the United States Army Corps of Engineers, the Pueblo de Cochiti was paid $145,200. Remaining lands were obtained from the Forest Service and other government agencies. The residential area of the Pueblo lies below the dam, as do the Tribe's remaining farmlands. (Much of the Pueblo's traditional agricultural lands now lie beneath the recreational pool.) The Pueblo did not choose to have the dam located on its lands.

The cultural life of the Pueblo de Cochiti is closely interwoven with its land. Historically, the Cochitis' economy was based on agriculture. Recently, cultivation of grains and alfalfa and raising of cattle were added to the traditional crops of maize, beans and squash. Religious ceremonials are often performed at natural shrines, or according to schedules governed by agricultural activities. In July of each year, the Cochitis perform a corn dance at which non-members are welcome. Members of the Pueblo de Cochiti hold the land itself to be sacred. For them, the loss of land, or its desecration, is not merely an economic deprivation, but a loss of a fundamental and spiritual aspect of their lives.

Construction of Cochiti Dam brought severe hardship to the Pueblo de Cochiti. The Cochitis were not eager to have the dam built, nor to give over their lands for the project. The whirlpool rock, sacred to the Pueblo de Cochiti (as well as to other pueblos), is within the dam area. Pueblo de Cochiti officials believed they were assured by the Corps of Engineers that the rock would not be harmed by the dam's construction. However, the rock was cut in half, forever impairing traditional religious practice. Pending proposals to add a hydropower facility to the dam threaten the rock and the Cochitis' religion even further. Finally, in the fourteen years since the Cochiti Dam's gates were closed, water seepage under the dam has flooded Cochiti lands, rendering farming impossible and endangering the Cochitis' traditional way of life.

Until completion of Cochiti Dam, the people of the Pueblo de Cochiti were able to continue, essentially undisturbed, their traditional agricultural and religious practices. They were able to worship at natural shrines and to cultivate the crops required for physical and spiritual sustenance. The dam has literally inundated many of those shrines and threatens to make farming a memory from the old days. Without its agricultural base, the economic structure of the Pueblo de Cochiti has been forced to place greater emphasis upon wage labor. This, in turn, poses an increased challenge to traditional social structure, as more and more workers are forced to leave the Pueblo de Cochiti, and as customary networks fall into disuse or decay. If agricultural pursuits are permanently lost, then a way of life will have been sacrificed. Thus it is apparent that the Pueblo de Cochiti loses much more than its crops when it loses its farmland.

III. The Seepage Problem

The problem is a direct result of ground water flow under Cochiti Dam. The flooding of about 500 acres of agricultural fields downstream of the dam was unanticipated. Several attempts have been made to solve the problem throughout its fourteen-year history, but the problem remains unresolved.

On November 29, 1985, the Pueblo de Cochiti filed suit in Federal District Court against the United States Army Corps of Engineers and other federal defendants, seeking damages and other injunctive relief as a result of destruction of agricultural lands by water seeping under the Cochiti Dam. The lawsuit was the result of frustration on the part of the Cochitis in their attempt to obtain redress of that harm and to put in place a program preventing further harm. In 1988, Congress approved Public Law 100-202, providing a means for the Pueblo de Cochiti and the Corps of Engineers to resolve the issue outside of adversary proceedings.

Pursuant to the congressional directive of Public Law 100-202, the Pueblo de Cochiti has been meeting with the Corps of Engineers to negotiate a resolution of the seepage problem that is satisfactory to all concerned. In this process, an executive committee, co-chaired by the Governor of the Pueblo de Cochiti and the District Commander for the Albuquerque District Corps of Engineers, has developed a nearly completed proposal for remedying the situation by design and construction of a system that would drain the lands and restore them to traditional agricultural use. In addition, the proposal would provide a means to fund operation and maintenance, and compensate the Pueblo for past economic damages.

A horizontal buried drainage system is the only acceptable solution for restoring the Cochitis' agricultural lands. The U.S. Bureau of Reclamation was selected as the design agent for the drain system. The estimate of design and construction costs is $5,308,400 (based upon October 1989 prices). Another $3,804,900 will be needed to create a sinking fund for operation, maintenance and replacement. Since the Corps of Engineers operations and maintenance budget process does not recognize maintenance of an agricultural drainfield off Corps lands as a legitimate project purpose, and the Cochitis believe that they should not be responsible for operation of maintenance of a system that had to be installed through no fault of their own, the Bureau of Indian Affairs has agreed to accept the responsibility for administering the $3,804,900 sinking fund for the government to operate and maintain the drainage system.

The Pueblo de Cochiti and the Corps of Engineers anticipate a settlement of $2,046,400 (in 1989 dollars) to reimburse the Cochitis for past crop losses, for infrastructure repair, and for other past economic losses.

The total project, in 1989 dollars, will cost approximately $11,159,700 in 1989 dollars. Full funding for the project for a later year would be slightly higher.

PRESENT NEEDS

While the Pueblo de Cochiti is confident that it will soon reach agreement with the Corps of Engineers on a joint progress report to the Congress, it is essential that progress on the design of the drainage system be able to go forward while negotiations continue. For this reason, we ask that the Seepage project be funded in the amount of $300,000 for fiscal year 1991. (If the Corps and the Pueblo are able to submit a joint report sufficiently in advance of FY 1991, additional funding may be requested for other project costs, to minimize their inflationary effect on the total cost.)

STATEMENT OF ROBERT E. JONES, JR., PHOENIX, AZ

A notable and long-time resident in the area, former U.S. Senator Barry Goldwater, expressed his views of the Project in his November 13, 1989 letter to the Mayor of the Town of Paradise Valley, a copy of which is attached hereto. Senator Goldwater's description of Reach 4 as the "worst boondoggle I've ever seen" could not be more eloquently put.

The expenditure of $51 million for this Project is totally irresponsible in view of the current federal deficit, as well as the many federal programs that benefit the public, which are being cut or eliminated. Your Committee should send a message to Arizona that the days of special interest legislation and protection have passed. The beneficiaries of this project should be made to realistically decide its economic warrant by having to shoulder the entire cost.

STATEMENT OF ROBERT L. STICKELS, COUNTY ADMINISTRATOR, SUSSEX COUNTY, DE

A critical situation will be created by the closing of the St. George's Bridge due to maintenance and load capacities. The only feasible solution to the transportation and commerce dilemma is to build a new bridge with funds previously contracted for, and promised by, the United States Army Corps of Engineers.

The existing federal St. George's Bridge cannot be modified to handle present traffic and future traffic volume. This is already unacceptable. A new federally funded bridge must be started without delay. However, the Federal Government is reluctant to provide funding and the U. S. Army Corps of Engineers ignores its longstanding contract commitment to provide a good and efficient public highway with sufficient capacity to pass traffic without inconvenience.

I firmly support the State of Delaware's efforts to obtain a federal commitment to pay for the construction cost of a new bridge over the federal Chesapeake and Delaware Canal to meet the future economic and traffic needs of Delmarva (Delaware/Maryland/Virginia). Presently, Delaware is building a new U. S. 13 Relief Route and has committed over $400,000,000 in Delaware funds to the project. The Army Corps of Engineers, contractually responsible to fund the bridge over the federal Chesapeake and Delaware Canal which cuts the State in two, continues to ignore its obligation to the building project. They claim that no funds are available.

Delaware officials and businesses understand fully the crucial situation that exists in the State and the jeopardy of the Delmarva Peninsula's economic future. Our congressional delegation has endorsed federal funding for the bridge and has been working hard to persuade the administration and the Congress to provide funds for the new bridge. Our State is willing to finance the new bridge, subject to future federal payment and maintenance support. In order to get that commitment from the government and make it binding, we need federal appropriation language, and possibly separate authorizing language, this year.

The new Chesapeake and Delaware Canal Bridge will be built to ensure the safety of Delaware's highway system and to support commerce for the Delmarva Peninsula. If Delaware is forced to build the bridge without a federal commitment to pay for it, then the Federal Government will have breached its contract commitment to Delaware and we, nor any other state, will have the assurance that the government will not back out of all its bridge responsibilities over the Chesapeake and Delaware Canal or refuse to provide funds in any other similar situation. Clearly, failure to continue to meet the federal legal contractual obligation to Delaware for bridges over the federal Chesapeake and Delaware Canal justifiably undermines confidence in the Federal Government's good faith in meeting its commitments.

STATEMENT OF LYNN KOPFMAN, PRESIDENT, RIO GRANDE WATER CONSERVATION DISTRICT

Mr. Chairman and distinguished members of the Committee, this testimony is submitted on behalf of the Board of Directors of the Rio Grande Water Conservation District.

I. Introduction.

The Rio Grande Water Conservation District is a political subdivision of the State of Colorado established pursuant to the provisions of Colorado Revised Statutes, §§37-48-101, et seq. The District is charged with the conservation, use, and development of the water resources of the Rio Grande and its tributaries within Colorado and, as such, is the local sponsoring entity of the Closed Basin Division of the San Luis Valley Project, Colorado (commonly called the "Closed Basin Project"). The District's Board of Directors represents the five counties in Colorado which will be benefited by the Project. These five counties encompass the vast majority of the land in the Rio Grande drainage basin within Colorado.

The San Luis Valley receives less than ten (10) inches of average annual precipitation and relies, almost exclusively, on irrigation to support its agricultural economy. Of the approximately 600,000 acres of irrigated land, about 425,000 acres are cultivated, with half the acreage being used to raise barley (primarily for malting) and potatoes, and the remainder being used to raise hay and alfalfa, other small grains, and vegetables. In addition to natural shortages, the single most important limitation on the availability of water for irrigation is the restrictive effect of the Rio Grande Compact. The Closed Basin Project will help to alleviate that restriction by adding water to the system. It is a true water salvage project which will permit the continued cultivation and use of the existing farmland but will not provide water supplies for new farmland. All of the irrigation systems in the San Luis Valley were developed by local water user organizations prior to the initiation of the Closed Basin Project.

II. Description of the Project.

A. Physical Circumstances. The San Luis Valley is located in south-central Colorado. The Rio Grande rises in the San Juan Mountains to the west of the Valley, flows southeasterly through the Valley to Alamosa, then runs south into New Mexico. After flowing south through New Mexico, the Rio Grande becomes the border between Texas and Mexico until it reaches the Gulf of Mexico. The Closed Basin is a hydrologic feature north of the Rio Grande in the San Luis Valley. It is created by a hydraulic divide that prevents water flowing out of the mountains on the north end of the Valley from reaching the Rio Grande. Water within the basin flows toward a sump area in the northeastern portion of the Valley, where most of the water is lost to non-beneficial evapotranspiration. The alluvial material in the sump area is believed to be separated from the lower portions of the Valley fill material by an aquiclude called the Blue Clay Series, which lies about 100 feet below the surface. The water below the Blue Clay Series is generally under artesian pressure while the water above the Blue Clay Series, in the sump, is not.

B. History of the Project. The potential for a project to salvage water in the sump area of the Closed Basin has been recognized for well over 50 years. In fact, that possibility was expressly recognized in the Rio Grande Compact (53 Stat. 785).

On October 20, 1972, Public Law 92-514 was enacted which authorized the construction, operation, and maintenance of the Closed Basin Project. The primary purpose of the Project is to salvage water which is now being lost through non-beneficial evapotranspiration. Salvage is accomplished through a series of wells which are pumped to lower the water table in the sump area of the

Closed Basin. The wells only withdraw water from the shallow aquifer above the Blue Clay Series and north of the hydraulic divide. The pumped water is discharged into a conveyance channel which carries it across the hydraulic divide and delivers it to the mainstem of the Rio Grande where it is used to assist Colorado in making the deliveries required of it under the terms of the Rio Grande Compact and to permit other beneficial uses of the water.

The authorizing legislation for the Closed Basin Project has been amended on three occasions. The most recent amendment, in 1988, increased the ceiling for the Project, provided for cost-sharing by the State of Colorado, and made other modifications to the Project's original authorization.

The Project was envisioned as a solution to several water resource problems in the Rio Grande Basin. First, the Rio Grande Basin is notoriously water short in all but the rarest years. Second, the Rio Grande Compact imposes strict obligations on the State of Colorado to deliver water each year to the States of New Mexico and Texas. This obligation normally results in substantial curtailments of diversions by Colorado water users in order to meet Colorado's commitments. Third, the United States has a treaty commitment to the United States of Mexico to share the waters of the Rio Grande (34 Stat. 2953). Fourth, federal wildlife refuges in the San Luis Valley have a need for additional water. When fully constructed, the Project will assist in meeting all of these needs by providing additional water supplies not otherwise available.

At the time of Project authorization, the State of Colorado was allegedly in debt to the States of New Mexico and Texas under the terms of the Rio Grande Compact. The alleged indebtedness exceeded 900,000 acre-feet. This shortfall gave impetus to the authorization of the Project. Today, that indebtedness no longer exists due to a series of unprecedented and truly unique years in which the water supply in the Basin far exceeded all historical records; however, the elimination of that indebtedness has increased the need for and the usefulness of the Project by permitting extensive water management to occur. In addition, the hydrologic cycle has now swung to the opposite extreme with the water supply in 1990 projected to be the lowest ever recorded.

The decree for the Closed Basin Project was obtained by the Rio Grande Water Conservation District in Case No. W-3038 in a proceeding before the Water Court for Water Division No. 3, State of Colorado. The appropriation date awarded to the Project is July 31, 1963. The decree was obtained at the request of the United States, which had not been joined in State court adjudication proceedings under the McCarran Act. The decree has been dedicated to the Bureau of Reclamation for the use and benefit of the Project.

III. Applicable Statutes.

A. The Closed Basin Project authorizing legislation, P.L. 92-514 (86 Stat. 954), as amended by P.L. 96-375 (94 Stat. 1507), P.L. 98-570 (98 Stat. 2941), and P.L. 100-516 (102 Stat. 2566).

B. Rio Grande Compact (73 Stat. 785).

C. Treaty with Mexico (34 Stat. 2953).

IV. Project Status.

Construction of the Closed Basin Project has been segmented into stages (Stage 1-2, 3, 4, and 5). Stages 1-2 and 3 are completed and operating. The wells in Stages 4 and 5 are completed, the conveyance channel is completed, and all of the rights-of-way for the pipeline laterals in Stages 4 and 5 have been acquired. The construction on Stage 4 is currently ongoing with the primary power grid installed, and the contract for construction of pipeline laterals, well vaults, and pump and motor installation underway. The Bureau of Reclamation has done an excellent job in managing the Project, and water has been delivered to the Alamosa National Wildlife Refuge and the Blanca Habitat Area and to the Rio Grande from Stages 1-2 and 3. Additional funding will be used to continue the construction schedule established by the Bureau of Reclamation to ensure completion of the Project.

Pursuant to the requirements of P.L. 100-516, the General Assembly of the State of Colorado has approved Senate Bill 85, which authorizes the Colorado Water Conservation Board to expend up to six million dollars of State money in order to cost-share the construction on Stages 4 and 5. That money will be made available to the Bureau of Reclamation pursuant to a cost-sharing agreement which has been executed by both the federal government and the State of Colorado. The agreement binds Colorado to cost-share the construction activities necessary to complete the Project at the level required in the federal law.

V. Appropriation Request.

The Administration's proposed budget for FY 1991 requests the appropriation of 7.34 million dollars for ongoing construction of the Closed Basin Project. That is the amount of money that can be utilized by the Bureau of Reclamation to secure continued construction in accordance with the current schedule.

We strongly support the Administration's request. It will permit this most important project to move toward completion. It will ensure that construction activity is not interrupted, which would result in substantial additional costs and inefficiencies, and it will allow the Bureau of Reclamation to hold to its construction schedule.

VI. Conclusion.

The Closed Basin Project is vital to the long-term health of our area. It is now over two-thirds completed and the Administration's budget for FY 1991 will allow the Bureau of Reclamation to continue construction on schedule. Please include the requested sum of 7.34 million dollars in the FY 1991 budget. Thank you.

STATEMENT OF BARRY GOLDWATER, FORMER U.S. SENATOR

The matter of the so-called canal, to be built on the north side of the Arizona Canal, has come to my attention in a much more vivid way than I had thought possible.

I have spent my entire life in this valley: I have seen the Salt River in high flood. I've lived through every manner of rain storm, but never have I known of any event that would call for the expenditure of any money for a canal to take care of water, supposedly falling outside the Arizona Canal, and causing trouble.

I do not know who started all this, but I intend to devote full time to putting a stop to this useless, waste of money, and I sincerely hope that the governing bodies of Paradise Valley, and other affected communities will join hands. This is the worst boondoggle I've ever seen, and as a tax payer, and as a citizen, I'm not going to sit by and take it.

STATEMENT OF JOHN E. MURPHY, PRESIDENT, ANIMAS-LA PLATA WATER CONSERVANCY DISTRICT

I am John Murphy, President of the Board of Directors of the Animas-La Plata Water Conservancy District, a former Mayor of the City of Durango, and a life-long resident of southwest Colorado. It is my privilege to appear before this committee to request the full funding of $13.4 million for the Animas-La Plata Project.

The Animas-La Plata Water Conservancy District will administer Project facilities within its boundaries and will share in the overall administration of the Project. We are anxious that the Project move ahead toward its fundamental objective: an adequate, dependable, soundly managed supply of much-needed water for the people who have waited so long for this Project to materialize. The appropriation requested in the President's budget of $13.4 million will help this project to materialize.

The voters of the Animas-La Plata Water Conservancy District voted overwhelmingly in support of the repayment contract between the District and the Bureau of Reclamation. In the heart of the agricultural dryland of the District, the vote was three to one in favor of the Project. The dryside farmers in La Plata County are convinced of the merits of the Project. In our dry area unless we capture the spring snow runoff from our mountains and store it in reservoirs, such as the Animas-La Plata Project's Ridges Basin Reservoir, for prudent use during the dry summer months, farmers cannot hope to thrive.

Additional water storage is needed for La Plata County's present and future residents and for its thousands of tourists. Durango is the center of a rapidly expanding recreation industry and the focal point of many archaeological undertakings. Growth in La Plata County is a reality. People come to our area because of the quality of life and great recreational opportunities. This population growth engenders the critical need for a stable and known supply of water both in municipal and outlying areas. The Animas-La Plata Project is the long awaited answer to our much-needed municipal water supply.

The Animas-La Plata Project is to provide 41,700 acre-feet of municipal and industrial water to southwestern Colorado. Of this amount, Durango and the immediate surrounding communities will receive approximately 6,700 acre-feet. Small wonder, therefore, that the Durango City Council unanimously approved a letter of intent to participate in the Project.

The Animas-La Plata Project represents stability for the economic life in La Plata County. Presently, many of our children are forced to leave this area to find work elsewhere because there are not enough jobs locally. The Project, after completion, will supply jobs to both Colorado and New Mexico. The increase in jobs will also have a multiplying effect. La Plata County is heavily dependent on tourism. Ridges Basin Reservoir will provide a much-needed water based recreation area in the heart of the county.

The people who live and work in southwestern Colorado will gladly tell you that we have long taken pride in our relationship with our Indian friends and neighbors and our neighbors in New Mexico. We are especially proud of what we have accomplished over the past several years to resolve our disputes over water. The jigsaw puzzle could not have been completed without all the pieces. We in Colorado were fortunate to have all the pieces. We were fortunate that we had people totally committed to arriving at an agreement which is fair to Indians and non-Indians alike.

Therefore, on behalf of the Board of Directors of the Animas-La Plata Water Conservancy District, I turn to you with confidence that our long years of efforts in putting together this jigsaw puzzle will not be erased and that you will provide the full funding of $13.4 million for the Project.

Thank you very much for your attention and consideration.

STATEMENT OF PAT GREER, MEMBER, BOARD OF DIRECTORS, ANIMAS-LA PLATA WATER CONSERVANCY DISTRICT

I am Pat Greer, a member of the Board of Directors of the Animas-La Plata Water Conservancy District, and a life-long resident of southwestern Colorado. I urge your support for the President's budget request of $13.4 million to begin construction of the Animas-La Plata Water Resource Development Project.

I am a drysider. I live and farm in the semi-arid region to be served by the Project. I look forward to receiving water, together with my Indian neighbors, from the Animas-La Plata Project. I am as aware as anyone of the difference irrigation will make in my ability to produce a living from my land.

Farmers in La Plata County have seen potentially bumper harvests deteriorate to nothing because of erratic rainfall and lack of irrigation. Access to irrigation water from the La Plata River is limited to the first few months of the growing season. As early as April in real dry years the La Plata River either dries up or is on call to meet the Interstate La Plata River Compact with New Mexico. The result is that unless there is a chance rain storm, our flourishing crops wither for lack of water.

Our soil is rich and will support valuable crops, but without a reliable water supply we are limited to the farming methods practiced by the earliest settlers. Engineering studies indicate that the existing conditions can be overcome with a water storage project to meet our water needs from late summer to early fall. The Animas-La Plata Project, when fully operational, will enable us to capture and store water when it is plentiful, and distribute and use it during times of shortage.

I was one of the first dryside farmers to sign a petition for allocation of water from the Animas-La Plata Water Conservancy District. The Animas-La Plata Project is our best hope to make the dryside the kind of farm land we need in our part of the country. We cannot, however, build this Project without federal assistance. We, therefore, repeat our pleas of other years that you help provide us the means of making the best of our fertile soil.

The Animas-La Plata Water Conservancy District is one of the signatories of the Final Settlement Agreement to satisfy the water rights claims of the Southern Ute and Ute Mountain Ute Indian Tribes through the construction of the Animas-La Plata Project. We were proud to have been a part of this settlement to achieve the common good. Without this negotiated settlement of the reserved water rights allocations for the Tribes, we would have been at loggerheads with our Indian neighbors over water. All parties recognize that by building the Animas-La Plata Project there will be sufficient water to allow growth and prosperity throughout southwest Colorado for Indians and non-Indians alike.

I have been neighbors with the Indian people all my life. We have always gotten along and we have always kept our word to each other. If other Indian Tribes are going to be asked to sit down and negotiate in good faith to reach settlement agreements, they must have the assurance that once those bargains are struck, Congress and the administration will keep their word. I hope you will do just that and provide the $13.4 million needed to keep the Animas-La Plata Project on a 12-year construction schedule.

I thank you for giving me the opportunity to express my support for the Project.

STATEMENT OF THE COLORADO RIVER BASIN SALINITY CONTROL FORUM

RECENT BACKGROUND
Detailed Fund Allocation

In 1984 the Congress acted to revise the Salinity Control Act and to establish a policy increasing the Basin States' cost-share to 30 percent of newly authorized salinity control works. This increase has made the Basin States even more attentive to the cost-effectiveness of the various components of the Colorado River Salinity Control Program.

After significant efforts to coordinate the views of many federal agencies and the seven Basin States, the Colorado River Basin Salinity Control Forum finalized the triennial report required under the Clean Water Act. That document, entitled the 1987 Review, Water Quality Standards for Salinity, Colorado River System, establishes a plan for salinity control in the Colorado River Basin that is in agreement with federal agencies' findings as to needs and recommended programs. These programs are required to maintain state-adopted and EPA-approved water quality standards for the River.

The Administration has now concluded that to implement the needed and necessary program identified in that report, the Bureau of Reclamation would require a total appropriation of $23,773,000 in FY 91. The Colorado River Basin Salinity Control Forum has determined that it can support the President's request. The Basin States have re-examined all of the features needed to control the salinity in the Colorado River. They have concluded that the President's budget should ensure that degradation of the water quality with respect to salinity of the Colorado River does not occur, and total dissolved solid levels do not exceed the water quality numeric criteria agreed to by the States and concurred upon by EPA.

With respect to construction, the Basin States urge the Congress to appropriate $14,732,000 for continuation of canal and lateral lining in the Grand Valley of Colorado; $3,380,000 for the continuation of the construction of facilities to dispose of salt brines in the Paradox Valley of Colorado; and $4,726,000 for construction in the Lower Gunnison area of Colorado so that the winter water supply can be placed in pipelines.

The Forum supports the President's budget for plan formulation. These funds would be used (1) for further analysis of salinity control opportunities at several locations including the Price-San Rafael Unit (Utah), the San Juan Unit (New Mexico), and the Glenwood-Dotsero Unit (Colorado), (2) to examine the cost-effectiveness of the overall program, and (3) to search for opportunities to remove additional salts from nonpoint sources.

It is noted that funds have been requested by Reclamation in the portions of their budget related to operation and maintenance and general administrative expenses. The Forum supports funding levels that will ensure adequate operation and maintenance of constructed salinity facilities and that would ensure the needed coordination and technical support functions. It should be noted that an opportunity has developed to work with private industry at Glenwood Springs, Colorado. There industry is proposing to build a cogeneration plant to produce electrical power from natural gas and to extract salt from the saline springs. The Forum is proposing legislation which would allow Reclamation to pay industry, out of FY 92 operation and maintenance funds, for salts removed.

If an appropriate level of funding is not provided in FY 91 and in future fiscal years for the Colorado River Salinity Control Program, the probability of violating water quality standards for salinity is greatly increased. To delay adequate funding today will ultimately result in the need to construct and implement a salinity control program at significantly higher costs in the future.

JUSTIFICATION

The waters of the Colorado River system serve some 18 million people and irrigate approximately 1.6 million acres in the seven Colorado River Basin States. The River also provides domestic and irrigation water to Mexico. Salinity has long been recognized as one of the major problems in the River. Water users in the lower reaches of the River system have suffered significant adverse impacts due to the River's salinity. These impacts have been estimated to be in excess of $300 million a year. Without salinity control measures and with increased demands for Colorado River water in the Basin, the River's salinity is projected to double by the turn of the century, with concomitant increases in salinity damages.

The Basin States' concern with the River's increasing salinity led to the creation of the Colorado River Basin Salinity Control Forum in 1973. The Forum, whose members are appointed by the governors of the respective states, developed a salinity control policy that called for maintaining salinity concentrations at or below those levels found in the lower River in 1972, while the Basin States continue to develop their compact-apportioned waters. The Forum has a continuing responsibility to see that a salinity control plan is implemented to meet the policy objectives.

After discussions between the federal government, the Republic of Mexico and the seven Colorado River Basin States, the Congress enacted in 1974 the Forum-sponsored Colorado River Basin Salinity Control Act (P.L. 93-320). Title I of the Act established a program to reduce the concentration of salts in the Colorado River below Imperial Dam (the last diversion point in the United States) for waters being delivered to Mexico. Title I was identified by Congress as a federal commitment. The Act also established an associated program, Title II, which allowed the states and the federal government to work together to prevent salinity increases in the Colorado River above Imperial Dam, benefitting users in the United States as well as Mexico. The 1974 Act also created a Colorado River Basin Salinity Control Advisory Council, composed of gubernatorial representatives of the Basin States to advise the Secretaries of the Interior and Agriculture and the Administrator of the Environmental Protection Agency as to needed annual adjustments to the salinity control effort.

In 1984, Congress enacted much-needed amendments to the 1974 Act that were advanced by the Forum. The amendments (Public Law 98-569) authorized additional activities for the Departments of the Interior and Agriculture that were needed in order to meet the objectives of the Act. Previously the Congress had required the Basin States to, over a period of time, reimburse the Bureau of Reclamation expenditures in the amount of 25 percent of the total construction costs. The 1984 amendments by Congress required that for newly authorized construction, the Basin States must pay 30 percent of the construction costs upon expenditure, or over a period of time with interest.

Since the enactment of the 1984 amendments, the Basin States and all of the involved agencies of the federal government have worked diligently to formulate a program that would minimize the cost of controlling the salinity of the Colorado River. These cooperative study efforts have shown that the salinity of the River can now be controlled to meet the objectives of the Act as amended, with a funding level significantly less than that initially identified.

The above findings have been published in the 1989 Joint Evaluation of Salinity Control Programs in the Colorado River Basin. This report, prepared jointly by all of the federal agencies involved in the salinity control effort (in consultation with the States), provides the best information available, at this point in time, to justify our requested level of appropriation. Unfortunately, the President's recommended appropriation does not satisfy the funding needs identified in this report.

In summary, we urge that the Senate Committee on Appropriations, Subcommittee on Energy and Water Development, recommend $23,773,000 be appropriated in FY 91. We feel it is important to again note that any further cuts in these appropriations would delay implementation of the Salinity Control Program, and could result in exceeding the salinity water quality numeric criteria for the River and significant future damage to the users of the Colorado River in the United States and Mexico. Catch-up funding attempts in future fiscal years will result in a program that will ultimately cost much more.

STATEMENT OF THE COLORADO RIVER BOARD OF CALIFORNIA

1991 FUNDING
COLORADO RIVER BASIN ONFARM SALINITY CONTROL
DEPARTMENT OF THE INTERIOR - BUREAU OF RECLAMATION

Your support and leadership are needed in securing adequate Fiscal Year 1991 funding for the Department of the Interior with respect to the federal/state Colorado River Basin salinity pollution control program. This program is carried out pursuant to the Colorado River Basin Salinity Control Act and the Clean Water Act. California's Colorado River water users are presently suffering economic damages estimated at about $250 million per year due to the river's salinity, and those damages are expected to more than double by the turn of the century without salinity control.

The President's proposed 1991 federal budget provides $22,838,000 for construction and $934,000 for plan formulation, for a total of $23,772,000 for the Department of the Interior's Colorado River Basin onfarm salinity control activities. The Basin states, which cost-share with the federal government up to 30 percent of the construction costs of Interior's salinity control measures, have carefully evaluated the federal funding needs of the program and have concluded that the President's budget is adequate to ensure that the water quality standards for salinity will be maintained in the near future.

At its March 14, 1990 meeting, the Colorado River Board of California, the state agency charged with protecting California's interests and rights in the water and power resources of the Colorado River System, formally adopted, by unanimous vote, the attached resolution supporting the recommended 1991 federal funding of $23,772,000 for Interior's Colorado River Basin salinity control activities.

The Colorado River is, and will continue to be, a major and vital water resource for California. Preservation of its quality through an effective salinity pollution control program will avoid the additional economic damages to river users in California that are expected by the turn of the century without salinity control.

The Board greatly appreciates your past and continued support of the federal/state Colorado River Basin salinity pollution control program and again asks for your assistance and leadership in securing adequate funding for this vital program.

RESOLUTION

WHEREAS, the Colorado River Board of California is the State agency charged with protecting the rights and interests of the State, its agencies and citizens in the water resources of the seven-state Colorado River System; and

WHEREAS, the Colorado River is a major and vital water resource for California, the six other Basin states, and Mexico; and

WHEREAS, Colorado River salinity pollution has been a long-standing interstate and international problem; and

WHEREAS, Colorado River water users in California are suffering economic damages estimated at about $250 million per year due to the river's salinity and those damages can be expected to more than double by the turn of the century without salinity control; and

WHEREAS, the Colorado River Basin Salinity Control Forum, composed of Governor-appointed representatives from each of the seven Colorado River Basin states, was organized in 1973 as a mechanism to establish water quality standards for salinity and to promote interstate cooperation in implementing basinwide measures to control the river's salinity pollution; and

WHEREAS, Colorado River salinity standards, including a program of implementation to control salinity pollution, have been adopted by the seven Basin states and approved by the Environmental Protection Agency; and

WHEREAS, Congress, in support of a federal/state basinwide program to control the river's salinity pollution, enacted the Colorado River Basin Salinity Control Act in 1974 and amended the Act in 1984; and

WHEREAS, the federal/state cooperative Colorado River Basin program for control of salinity pollution is cost shared with nonfederal interests, 30 percent nonfederal funding for the Department of the Interior's salinity control activities; and

WHEREAS, significant progress has been achieved in controlling salinity pollution through the active partnership of the Basin states and the federal government in accordance with the Colorado River Basin Salinity Control Act and the Clean Water Act; and

WHEREAS, the continued success of the federal/state salinity control program depends on the timely implementation and funding of the salinity control measures outlined in the state-adopted and EPA-approved plan of implementation to control Colorado River salinity pollution.

NOW, THEREFORE, BE IT RESOLVED THAT the Colorado River Board of California strongly supports the budget recommendations of the President with respect to the necessary level of 1991 federal funding for the Department of the Interior to maintain an effective Colorado River salinity pollution control program:

	President's Budget
Department of the Interior	
Plan Formulation	$ 934,000
Construction	
Grand Valley Unit, Colorado	14,732,000
Paradox Valley, Colorado	3,380,000
Lower Gunnison Basin Unit Winter Water	4,726,000
Total, Department of the Interior	$23,772,000

BE IT FURTHER RESOLVED THAT the Colorado River Board of California wishes to express its deep appreciation for the unwavering Congressional support that has been given to the Colorado River Basin salinity pollution control program over the years and urges members of Congress to continue to provide the support and leadership needed to ensure that the Department of the

Interior receives sufficient funding in 1991 and beyond to maintain the integrity of this vital federal/state program and permit its continued and timely implementation.

Unanimously adopted on March 14, 1990.

State of California)
) ss.
City of Los Angeles)

I, RICHARD E. ANGELOS, Deputy Executive Director of the Colorado River Board of California, do hereby certify that the foregoing is a true copy of a resolution adopted by said Board a Regular Meeting thereof, duly convened and held in Los Angeles, California, on the fourteenth day of March 1990, at which a quorum of said Board was present and acting throughout.

Dated the fourteenth day of March 1990.

Richard E. Angelos
Deputy Executive Director

1991 FUNDING FOR PRECIPITATION MANAGEMENT RESEARCH DEPARTMENT OF THE INTERIOR

The Colorado River Board of California is concerned that the President's proposed Fiscal Year 1991 budget contains no funds for the Atmospheric Water Resources Management Program of the U.S. Bureau of Reclamation. No funds were included in Fiscal Year 1990 for this program, and funding levels of the preceding two years were drastically reduced from the program level of $5.7 million in Fiscal Year 1987.

The curtailment in funding for a program of such potential value for enhancing water resources management practices throughout water deficient regions of the nation seriously undermines the advancements made by the Bureau of Reclamation in pioneering precipitation management research over the past three decades. The value of this research and the potential for enhancing water resources management in the water deficient Colorado River Basin has been well documented. With the Colorado River Basin now experiencing its third consecutive year of substantially below-average runoff, and many other water deficient areas in the western half of the nation facing similar conditions, water augmentation through precipitation management represents a management option that cannot be ignored.

At its April 11, 1990 meeting, the Colorado River Board of California, the State agency charged with protecting California's interests and rights in the Colorado River system, formally adopted, by unanimous vote, the attached resolution supporting 1991 funding of $3.3 million for the Bureau's Atmospheric Water Resources Management Program for Fiscal Year 1991. These funds, coupled with matching nonfederal funds from eleven agencies in nine states which have formally expressed an interest in pursuing a cooperative research program, would enable the Bureau to maintain and continue to improve its capability in precipitation management research and allow for the transfer of this technology to operational programs.

The Colorado River Board of California would greatly appreciate your assistance and leadership in securing the recommended Fiscal Year 1991 funding for this vital program and ensuring that sufficient funding is provided in the future.

RESOLUTION

WHEREAS, the Colorado River Board of California is the State agency charged with protecting the rights and interests of the State, its agencies and citizens in the water resources of the seven-state Colorado River System; and

WHEREAS, the Colorado River is a major and vital water resource for California, the six other Basin states, and Mexico; and

WHEREAS, Colorado River water use in the seven Basin states is approaching the long-term average supply available from the river system; and

WHEREAS, the Congress, in approving the Colorado River Basin Project Act of 1968, P.L. 90-537, recognized that there is insufficient water in the Colorado River Basin to meet the long-term needs of the Basin states; and

WHEREAS, the Congress, in P.L. 90-537, authorized studies of measures to augment the water supplies of the Colorado River by 2.5 million acre-feet per year and declared that the satisfaction of the water delivery requirements of the Mexican Water Treaty from the Colorado River constitutes a national obligation which shall be the first obligation of any future augmentation project; and

WHEREAS, the most promising means for augmenting water supplies in the Colorado River Basin is by increasing the snowpack in the Basin by weather modification; and

WHEREAS, applied research expertise in precipitation management in the United States with respect to the development of scientifically sound operational weather modification techniques for water production lies within the U.S. Bureau of Reclamation; and

WHEREAS, U.S. Bureau of Reclamation, through years of theoretical studies, laboratory and field experiments and controlled cloud seeding, has estimated that basinwide weather modificiation, snowpack enhancement, in the high mountainous watersheds of the Colorado River Basin could add an average of between 1.5 to 2.0 million acre-feet of water per year to the river supply; and

WHEREAS, the advanced weather modification technology for snowpack enhancement evolved from substantial federal and nonfederal investments during the past thirty years with the target of developing the technology for application at this time; and

WHEREAS, the Atmospheric Water Resources Management Program within the Bureau of Reclamation is the appropriate program to determine the timely feasibility of augmenting the Colorado River through a basinwide cloud seeding program and the Bureau of Reclamation is the logical agency to implement and operate such a program pursuant to the federal responsibilities of the Colorado River Basin Project Act; and

WHEREAS, applied research in precipitation management carried out under the Bureau of Reclamation's Atmospheric Water Resources Management Program can be instrumental in helping define global climatological changes and may be beneficial in mitigating adverse impacts of such changes, as well as enhancing water supply conditions for and during critical dry periods; and

WHEREAS, the Atmospheric Water Resources Management Program of the Bureau of Reclamation has experienced major funding level reductions since 1987 with no funds appropriated for the current fiscal year; and

WHEREAS, this cu~~rtailment in~~ funding has seriously impacted the capability and effectiveness of the Bureau of Reclamation in advancing applied research for the development of cost-effective operational weather modification proposals for the Colorado River Basin and other areas in the nation that could benefit by water supply enhancements of a non-structural nature; and

WHEREAS, many states in the west and midwest portion of the nation have recognized the potential for increasing their available water supplies through weather modification and agencies in nine states have expressed their intent and desire to financially participate on a matching fund basis with the Bureau of Reclamation in weather modification activities; and

WHEREAS, agencies in these states have collectively cited their intent to provide matching funds in the amount of $3.3 million for the implementation of applied weather modification research.

NOW, THEREFORE, BE IT RESOLVED that the Colorado River Board of California respectfully requests that Congress provide $3.3 million in the Fiscal Year 1991 federal budget for the Atmospheric Water Resources Management Program of the Bureau of Reclamation to restore the federal capability in applied weather modification research, to provide for the transfer of this technology to operational plans, to meet state commitments for matching funds, and to further the understanding of global climatological changes; and

BE IT FURTHER RESOLVED that the Colorado River Board of California urges the Congress to direct the Secretary of the Interior to develop a defined program at the earliest possible date for confirming the most feasible and appropriate means of augmenting the Colorado River by 2.5 million acre-feet per year as required by the 1968 Colorado River Basin Project Act.

Unanimously adopted on April 11, 1990.

State of California)
) ss.
County of Los Angeles)

I, RICHARD E. ANGELOS, Acting Executive Director of the Colorado River Board of California, do hereby certify that the foregoing is a true copy of a resolution adopted by said Board at a Special Meeting thereof, duly convened and held in Coachella, California, on the eleventh day of April 1990, at which a quorum of said Board was present and acting throughout.

Dated this eleventh day of April 1990.

Richard E. Angelos
RICHARD E. ANGELOS
Acting Executive Director

STATEMENT OF MARLYNE JONES, PARADISE VALLEY, AZ

I am writing you to oppose federal funding for Reach 4 of the ACDC, a 36-ft. wide, 21 to 25-ft. deep, 4.2 mile cement ditch the U.S. Army Corps of Engineers plans to build in northeast Phoenix/Paradise Valley.

I urge you to oppose the project because serious questions have been raised regarding its legality, economic warrant, Environmental Impact Statement, and construction design.

Local opposition, which has included:

The Arizona Biltmore Hotel
The Arizona Biltmore Estates Village Association
Pueblos Hermosa Homeowners
Torre Blanca Homeowners
North Central Phoenix Homeowners
The Camelback East Village Planning Committee
The Citizens Against Reach 4
Arizona Republic newspaper
Phoenix Magazine

Now also includes many Paradise Valley residents, the Paradise Valley Homeowners Association, and the Town of Paradise Valley.

In fact, on December 7, 1989, the Paradise Valley Town Council approved a resolution directed to the Maricopa County Flood Control District and the U.S. Army Corps of Engineers voicing strong opposition to an open ditch. On February 22, 1990, the Paradise Valley Town Council, "on behalf of residents and concerned taxpayers," approved a resolution specifically directed to Senators John McCain, Dennis DeConcini, and U.S. Representative Jon Kyl, asking for an investigation of Reach 4's economic justification and environmental impacts.

The following quote is from the Arizona Canal Diversion Channel Task Force Final Report, presented to the City of Phoenix Mayor and City Council in April 1986:

> ...the only local government or quasi-governmental interests which appear to have a risk of liability from flooding along Reach 4 is the SRP or technically,

> the Salt River Valley Water User's Association, and the Salt River Project Agricultural Improvement and Power District (a political subdivision of the State of Arizona). The SRP has been the subject of flood damage lawsuits arising out of the operation of its canals. The ACDC would dramatically reduce the likelihood of such liability. (p. 27)

Reach 4's opponents argue that taxpayers are being unfairly burdened for what is essentially SRP's problem. Their point is confirmed by the fact that FEMA maps (also prepared by the Corps), show the area below SRP's Arizona Canal to be in a 500-year floodplain.

Despite the level of opposition within U.S. Representative Jon Kyl's district, Mr. Kyl, as of last Friday (March 23), had not reached his decision regarding whether the project should proceed. Hopefully, Congressman Kyl's representation will be fair, and not constrained by the fact that for approximately ten years preceding his election to the U.S. House of Representatives he was a member of Jennings, Strouss & Salmon, Attorneys, and represented SRP, the lawfirm's primary client.

I urge you on behalf of Paradise Valley and east Phoenix residents and taxpayers to oppose federal support for Reach 4 (thereby freeing funds for other flood control projects enjoying more favorable economics and no opposition).

Thank you for your assistance.

STATEMENT OF THE BOROUGH OF LINCOLN PARK, NJ

As Councilwoman from the Borough of Lincoln Park, I am actively seeking your endorsement of the Dual Inlet Tunnel Project, proposed by the United States Army Corps of Engineers.

I would like to take this opportunity to express the importance of this project, its effect on our environment, and its economic impact.

The flood dilemma in the Passaic River Basin has intensified in recent years. This area serves as home for over 2.5 million people, as well as host to myraid businesses and major corporations.

The reasons for building this Tunnel system are compelling. It has been estimated that a flood similar to the 1903 event, if it occurred in 1990, would cause damages in excess of $1.2 billion. This does not account for the potential loss of human life. Please bear in mind that 4 lives were lost in the 1984 flood, which also resulted in damage to 9,400 residential and business establishments at the cost of 370 million dollars.

Over 100 plans both structural and non-structural, were considered by the Army Corps prior to the selection of the Tunnel plan being endorsed by the New Jersey Department of Environmental Protection.

The recommended plan is the most environmentally sensitive of all structural alternatives because the large conveyance tunnel is deep underground. This makes it possible to avoid disruption of the surface, including commercial and transportation activities. The Tunnel Project includes preservation of 5,350 acres of natural flood plain storage areas, making a total of 21,215 acres permanently preserved through government ownership.

Implementation of the Dual Inlet Tunnel Plan would not only have an economic impact, but also ensure the social well being of the people in the Passaic River Basin. The lack of a flood threat would eliminate the flood related costs [estimated at $92 million annually] to local, state, and Federal Governments-which in turn would have a positive effect on all taxpayers. The dependability of the vast transportation system affected by flooding would also be greatly improved.

The Tunnel, at a cost of $880 million, would eliminate the potential of $1.2 billion in damages. The cost of the Tunnel would then be reduced to its annual operation and maintenance costs of $2.1 million. This is relatively inexpensive compared to the $92 million in average annual damages that can be expected if this Tunnel is not constructed.

As the non-federal sponsor, the State of New Jersey will pay only 25% of the cost of the Tunnel. The states share can be further reduced by applying Flood Insurance Credits such as costs incurred with early warning systems, buy-out programs and Emergency Management operations.

I agree with Commissioner Bramucci's statement that we must retrain and redirect the underemployed and unemployed. The Tunnel project will create approximately 1,200 jobs. I believe that the creation of these jobs will help alleviate this problem.

Technology offers an answer to this naturally-occuring flooding problem. The plan developed by the US Army Corps of Engineers will provide a permanent solution to flooding in New Jersey's Passaic River Basin.

The purchase of residential and commercial properties necessary to provide the same level of protection as the Tunnel Plan would cost at least four times as much. Severe flooding would still occur. And the burden of the infrastructure would be placed on those individuals not affected with the buy-out.

I hope that this information provided to you in this letter has put to rest any and all misconceptions that you may have had. Your support of this project is critical to us.

I have enclosed for your review the cost factors attributed to damages from a 100 year flood in 5 counties and 35 municipalities without the Tunnel.

If you should have any further comments, please do not hesitate to contact me. Thank you for your consideration in this matter.

I look forward to hearing from you.

PASSAIC RIVER BASIN:

DAMAGES - 100 YEAR FLOOD

COUNTY	*WITHOUT TUNNEL PLAN*	*WITH TUNNEL* PLAN*
PASSAIC	***$ 464,900,000***	***0***
Clifton	*10,800,000*	*0*
Little Falls	*11,000,000*	*0*
Passaic City	*39,800,000*	*0*
Paterson	*105,800,000*	*0*
Pompton Lakes	*36,400,000*	*0*
Totowa	*7,300,000*	*0*
Wayne	*192,300,000*	*0*
W. Paterson	*61,500,000*	*0*
ESSEX	***273,500,000***	***0***
Belleville	*8,000,000*	*0*
Fairfield	*172,100,000*	*0*
Livingston	*4,800,000*	*0*
Newark	*60,200,000*	*0*
N. Caldwell	*100,000*	*0*
Nutley	*600,000*	*0*
Roseland	*100,000*	*0*
W. Caldwell	*27,600,000*	*0*
MORRIS	***245,200,000***	***0***
E. Hanover	*13,200,000*	*0*
Florham Pk.	*4,000,000*	*0*
Hanover	*3,800,000*	*0*
Lincoln Park	*79,500,000*	*0*
Montville	*8,000,000*	*0*
Par-Troy Hills	*13,300,000*	*0*
Pequannock	*122,200,000*	*0*
Riverdale	*1,200,000*	*0*
BERGEN	***92,100,000***	***0***
E. Rutherford	*9,100,000*	*0*
Elmwood Pk.	*4,100,000*	*0*
Fairlawn	*19,400,000*	*0*
Garfield	*25,600,000*	*0*
Lyndhurst	*5,300,000*	*0*
N. Arlington	*1,400,000*	*0*
Rutherford	*3,100,000*	*0*
Wallington	*24,100,000*	*0*
HUDSON	***45,900,000***	***0***
E. Newark	*700,000*	*0*
Harrison	*5,700,000*	*0*
Kearny	*39,500,000*	*0*
TOTAL	***$1,121,600,000***	***0***

** Minor residual damage will occur in some areas*

Source: United States Army Corps of Engineers

STATEMENT OF BETSY GOTBAUM, COMMISSIONER, PARKS AND RECREATION, NEW YORK, NY

New York City is a city on the water, a major port, a city of islands. Only one of the city's five boroughs, or counties, is part of the United States mainland. That is the Bronx. Brooklyn and Queens are both on Long Island, Manhattan is on Manhattan Island, and Staten Island, of course, is also an island. The City has hundreds miles of shore line, and because New York City is one of the most densely populated areas in the world, much of our shore line has been developed, for either industrial, residential or recreational use. Billions of dollars in both public and private funds have been invested on the waterfront.

Fourteen miles of our waterfront have been dedicated to public beaches. Our best known beach is Coney Island in Brooklyn, where the area behind the beach is heavily developed, and under increasing threat of flooding during seasonal storms. Our largest beach, Rockaway, protects a peninsula that is also heavily developed along most of its seven mile length.

These two beaches and a third smaller beach, Orchard Beach, which is heavily used by the minority population of the Bronx, all need sand nourishment in order to continue to be useful both as flood barriers and as recreational facilities for the more than seven million New Yorkers.

Let me be more specific about the needs of each of these three beaches:

CONEY ISLAND BEACH EROSION CONTROL AND FLOOD PROTECTION

The City urges Congress to appropriate funds for the "Rockaway Inlet to Norton Point, N.Y." Shoreline Protection Project.

The Water Resources Development Act of 1986 (P.L. 99-662) includes authorization for the Rockaway Inlet to North Point project providing for beach fill up to 250 feet beyond the historical shoreline at a total cost of $22.5 million to $11.9 million federal share, and $10.6 million state/local share. The local share is financed 70 percent from State funds and 30 percent from the City's Parks Department operating budget.

The Rockaway Inlet to Norton Point project is a small shoreline protection project to deal with critically eroded and hazardous beach conditions at the Coney Island/Sea Gate area of Brooklyn. This beach has been eroding by five to 10 feet each year for the last decade. At high tide, the water laps under the boardwalk. If this project does not go forward, the beach, may no longer exist. Water fountains built on the beach a few years ago are submerged.

The project will arrest the beach erosion which has taken place over the course of the last two decades, and provide of flood protection to the residents and commercial enterprises in the area. On summer weekends 800,000 to one million people enjoy the beach. For millions of low and moderate income New Yorker's it is the only accessible summer recreational resource. The project would also provide protection to the residents and commercial enterprises who would be at risk in the event of a storm. In 1960, tropical storm Donna inundated the area and caused $1.2 million worth of damage. Today, a similar storm could easily cause damages in excess of $20 million.

The City urges Congress to appropriate funds this year for the pre-construction and construction phases of the project at levels determined by the Army Corp of Engineers.

ROCKAWAY BEACH NOURISHMENT

The City urges Congress to appropriate funds to continue beach nourishment at Rockaway Beach under the Army Corps of Engineers "Jamaica Bay Beach Erosion Control Project."

Under the Jamaica Bay Beach Erosion Control Project (See House Document 89-215, 1st Session, 1965), Rockaway Beach was be restored from 1975-77, and nourished five times in the following ten years between 1978-88 to replace sand lost through erosion. The fifth and last of these nourishments occurred in the spring of 1988.

The Water Resources Development Act of 1976 (Sec. 156) authorized additional nourishment for short term projects such as Jamaica Bay for up to 50 years after the initiation of the project. Therefore, the nourishment of this important project is authorized for an additional 40 years. However, an appropriation is needed this year to ensure that the uninterrupted nourishment cycle continues.

Rockaway will require another nourishment in 1990 and periodically thereafter. Without the nourishment, the beach will erode at a rapid rate and the adjacent property will be more susceptible to storm damage. Nourishment of Rockaway Beach will provide storm damage protection to the planned Arverne residential complex, which will offer more than 8,000 units of housing to moderate-income families at a cost of approximately $2 billion. An appropriation is necessary this year to provide for a continuation of the necessary nourishment project. The City urges Congress to provide funds in FY'91 and as necessary over the life of the project to continue this important beach nourishment project.

ORCHARD BEACH EROSION CONTROL

The City urges Congress to appropriate funds to carry out a Beach Erosion Control Project for Orchard Beach, New York.

Orchard Beach is a crescent shaped beach built by the City. The beach fronts on Long Island Sound. It is located on the northeastern shore of the Borough of the Bronx, in Pelham Bay Park. The beach has suffered erosion over the last 20 years, causing crowding and steep slopes. On busy days, beach attendance has exceeded 150,000.

The Water Resources Development Act of 1986 (P.L. 99-662) contains an authorization for the Orchard Beach project at a total cost of $2.48 million, with Federal participation capped at $1 million, to be funded out of the Corps Engineers' discretionary "Section 103" small beach erosion control program.

The Corps conducted a study in 1985 to determine the needs and costs of a beach restoration and subsequent periodic nourishment project for Orchard Beach. The cost estimate was $3.536 million in 1985 dollars or in 1988 dollars $4,093,362.

Orchard Beach was last nourished in 1964. It continues to erode at a rate of approximately 4 feet per year. The City urges authorization and allocation of funding, as determined by the Corps Study for increased funding for the Orchard Beach Erosion Control Project.

CONCLUSION

In summary, let me repeat that the City of New York needs the help of Congress to replenish our beaches. On stormy days the beaches protect thousands of homes and many businesses from being washed away; on sunny days the beaches provide pleasure to hundreds of thousands of New Yorkers who could not afford to go to more remote locations for a day at the beach if the beaches they enjoy now were reclaimed by the sea.

Please give us your help.

STATEMENT OF THE IMPERIAL IRRIGATION DISTRICT, CALIFORNIA

The Imperial Irrigation District requests your support in securing adequate 1991 federal funding for the Colorado River Basin Salinity Control Program, Energy and Water Development Budget, Bureau of Reclamation, Department of the Interior. This cooperative cost-shared program is carried out pursuant to the Colorado River Basin Salinity Control Act and the Clean Water Act.

The Colorado River is the sole source of water supply for the District. Accordingly, the District is concerned with preserving both the quantity and quality of this vital supply. Colorado River salinity pollution has been a long-standing river problem. It is estimated that economic losses in California due to the river's salinity amount to about $250 million per year and that this level of damages is expected to more than double by the turn of the century without salinity control.

The seven Colorado River Basin States have adopted and the Environmental Protection Agency has approved numeric water quality standards for Colorado River salinity and a plan of implementation for salinity control in accordance with the federal authorizing Acts. The salinity control projects authorized for the Department of the Interior are a major and integral part of the federal/state salinity pollution control program. Any delay in implementing Interior's scheduled salinity control measures could result in failure to maintain the Basin States-adopted and Environmental Protection Agency-approved Colorado River standards for salinity in the future and result in further salinity pollution.

The President's 1991 proposed budget provides a total of $23.972 million for the Department of the Interior's Colorado River salinity control activities -- $22.838 million for construction and $.934 million for plan formulation. The Basin States which are 30-percent cost-sharing partners in the program, have determined that the States-adopted and federally approved plan of implementation schedule for maintaining the salinity standards necessitates a 1991 total appropriation as recommended by the President.

Your support and leadership in securing the recommended $23.772 million in the 1991 federal budget for Colorado River salinity control for the Bureau of Reclamation would be greatly appreciated.

STATEMENT OF GORDON W. FASSETT, STATE ENGINEER, WYOMING

I am writing to express the support of the State of Wyoming for the appropriation of funds, as identified in the President's Fiscal Year 1991 Budget for the Department of the Interior, Bureau of Reclamation's Colorado River Basin Salinity Control Program. The President's budget recommends the following amounts for Title II of the Colorado River Basin Salinity Control Program of the Bureau of Reclamation:

Construction	$22,838,000
Plan Formulation	934,000
Operation and Maintenance	455,000
TOTAL:	$24,228,000

Very recently this Committee which you chair received testimony from the Colorado River Basin Salinity Control Forum, which was presented by Jack A. Barnett, the Forum's Executive Director. The State of Wyoming is an active participant and member State of the Forum. Wyoming concurs in the Forum's statements of support for the Title II Program of the Bureau of Reclamation's Colorado River Basin Salinity Control Program in total. As Mr. Barnett has indicated, the Forum, on which I sit, has concluded that the President's budget recommendations for this important salinity control program is adequate to ensure that Colorado River Basin water quality degradation due to salt loading does not occur, and that the total dissolved solid levels will not exceed the water quality numeric criteria adopted by the States and concurred in by the Environmental Protection Agency.

Further, as also stated in the Forum's testimony, it is the shared belief of the Colorado River Basin States, including Wyoming, that the failure to fund the Bureau's Colorado River Basin Salinity Control Program at the appropriate level identified in the President's recommended budget will greatly increase the probability that the water quality standards mentioned above will be violated in the Colorado River Basin in future years. This would be a problem of great magnitude to the United States and to the Colorado River Basin States. Funding levels necessary at that time to rectify the problem would be significantly higher than if the Program is funded at the recommended levels now, which levels are consistent with the adopted Plan of Implementation.

The State of Wyoming believes that the President's budget recommendation, totalling $24,228,000 for the Title II portion of the Colorado River Basin Salinity Control Program of the Bureau of Reclamation is appropriate and adequate to allow the timely continuation of this important Basin-wide water quality program. On behalf of the State of Wyoming, I urge your Committee to recommend that this level of funding be appropriated to the Bureau of Reclamation for Fiscal Year 1991.

Thank you for the opportunity to present this statement of support for the adequate funding of this important program.

STATEMENT OF LEONARD C. BURCH, CHAIRMAN, SOUTHERN UTE INDIAN TRIBE

SUMMARY OF SPECIFIC ACTION REQUESTED:

> Appropriation of funds recommended by the Administration for construction of the Animas-La Plata Water Resource Development Project in the state of Colorado.

Mr. Chairman and Members of the Committee:

I am Leonard C. Burch, Chairman of the Southern Ute Indian Tribe, of Ignacio, Colorado. On behalf of my tribal members, I am here to again request your consideration of the funding needed to construct the Animas-La Plata Project on schedule. I am delighted, Mr. Chairman, that for the first time in the long history of appearances by tribal representatives before your Committee, that we are asking only for that which the present administration requested in its fiscal 1991 budget, $13.4 million.

For many years, we have come before your Committee, Mr. Chairman, requesting additional funds, funds which were badly needed for the Animas-La Plata Project. Year after year, this Committee has been responsive to our needs and appropriated the additional money necessary to keep this project moving. We are now on the threshold of an irreversible construction start. The administration has recognized the importance of the Animas-La Plata Project by asking the Congress to appropriate the required $13.4 million in construction funds. We ask that your committee concur with the President and appropriate $13.4 million for the Animas-La Plata Project.

The Southern Ute Indian Tribe needs the Animas-La Plata Project for water for agricultural and industrial use. Our future as a tribal entity depends on the availability of water in sufficient amounts to enable us to develop what lies on and under the lands allotted to us. Only by making productive use of our resources can we achieve the level of economic independence and self-sufficiency so frequently urged as the ultimate objective of the United States Government.

We look to the Animas-La Plata Project as the Tribe's surest means of making the needed additional water available. The Animas-La Plata Project resolves not only the Tribe's water rights claims, but also a broad range of water problems, including water augmentation for projected municipal growth and the shortage of irrigation water of our non-Indian neighbors. The Animas-La Plata Project has been carefully studied and analyzed over the years. The Project is main feature in our Water Settlement Agreement which is widely used as an example of the cooperative resolution of tribal and non-Indian water claims.

In addition, Mr. Chairman, our Tribe would like the Committee to consider a write-in request of $300,000 for repair and reconstruction of Capote Lake Dam on the Southern Ute Indian Reservation under the provisions of the Dam Safety Program. Our water rights in Lake Capote were recognized in the Colorado Ute Indian Water Rights Settlement Agreement, which was confirmed by the United States Congress in PL 100-585. In compliance with the provisions of the Agreement, the Colorado State Engineer inspected Lake Capote Dam and issued a dam safety warning to the Southern Ute Indian Tribe regarding this structure. The State Engineer cited numerous defects which if not corrected could constitute a significant hazard to the health and safety to people and property located downstream from the dam structure. The Southern Ute Indian Tribe was not unaware of the problems connected with Lake Capote Dam until the inspection. For several years the Tribe has requested that the Bureau of Indian Affairs provide funds to rehabilitate Capote Dam. Because the State of Colorado has issued a safety warning, the Tribe feels that it is urgent that the reconstruction be accomplished as soon as possible. We would therefore appreciate your Committee's consideration of a special write-in of $300,000 for this reconstruction project.

Our sincere thanks to you, Mr. Chairman, and to the Members of the Committee for your continued support of the vital Animas-La Plata Project which means so much to so many people in southwestern Colorado and northwestern New Mexico, Indian and non-Indian alike. The citizens of southwest Colorado, Indian and non-Indian, have always relied on the invaluable assistance of this Committee in resolving our water problems. Our reliance has never been misplaced.

STATEMENT OF FRED V. KROEGER, PRESIDENT, SOUTHWESTERN WATER CONSERVATION DISTRICT, CO

I am President of the Southwestern Water Conservation District of Colorado. I am pleased to again present testimony before this Committee requesting consideration of funding for the Dolores and Animas-La Plata Water Resource Development Projects in southwestern Colorado and northwestern New Mexico. We are requesting the Committee's consideration of $49 million in construction funds for the Dolores Project and $13.4 million for the Animas-La Plata Project. Both of these amounts have been requested by President Bush in the budget he submitted to the Congress earlier this year. We are delighted, Mr. Chairman, that for the first time the President's budget request includes funding for the Animas-La Plata Project which is sufficient to keep the project on its twelve-year construction schedule. That construction schedule is required if the United States Government is to meet its commitment to the Colorado Ute Indian tribes under the provisions of the 1988 Colorado Ute Indian Water Rights Settlement Act, Public Law 100-585.

As you know, Mr. Chairman, construction of the Animas-La Plata Project will enable the United States Government to fulfill its commitment not only to the Colorado Ute Indian tribes but also to the other citizens of southwestern Colorado and northwestern New Mexico. The project was authorized in 1968 to assure municipal, industrial and irrigation water to our area for completion concurrently with the Central Arizona Project.

With full funding for the Project, as requested in the President's budget, we will be able to move full speed ahead on the project.

In my opinion, the Animas-La Plata Project exemplifies the best of Bureau of Reclamation, multiple-use water resource development projects. Not only does this project provide for the settlement of the Colorado Ute Indian tribes' reserved water rights claims, the project provides needed agricultural water for the non-Indian communities of southwestern Colorado, provides a stable domestic supply of water for cities in Colorado and New Mexico, and provides vital economic development potential for the area through the creation of new jobs and the creation of a major recreational reservoir.

The Colorado Ute Indian Water Rights Settlement Act is now considered a hallmark in the negotiation and equitable settlement of Indian water claims. I cannot over-emphasize, Mr. Chairman, the good that has been accomplished by the passage of this legislation. It would be tragic, indeed, if the commitments contained in that legislation, including a 12-year project construction schedule, were not fulfilled and the agreement were dissolved. Appropriation of the $13.4 million requested by the administration will enable the Bureau of Reclamation to maintain that 12-year construction schedule.

Thank you for your assistance in the past and your consideration of our current request.

STATEMENT OF GERALD R. ZIMMERMAN, EXECUTIVE DIRECTOR, UPPER COLORADO RIVER COMMISSION

Summary of Specific Action Requested

Appropriation of funds recommended by representatives of the States of Colorado, New Mexico, Utah, and Wyoming for the Colorado River Storage Project and participating projects.

The Upper Colorado River Commission is an interstate compact administrative agency created by the Upper Colorado River Basin Compact of 1948. The member States of the Upper Colorado River Commission are: Colorado, New Mexico, Utah, and Wyoming. Since its inception, the Commission has actively participated in the development, utilization, and conservation of the water resources of the Colorado River Basin.

The member States of the Upper Colorado River Commission have always given strong support to water resources development in the Upper Colorado River Basin and in particular to the Colorado River Storage Project and participating projects. We appreciate the opportunity to provide testimony before this subcommittee in support of the appropriation of funds to continue the construction and operation of the Colorado River Storage Project and participating projects in Fiscal Year 1991.

Commission's member States will also submit testimony to this subcommittee in support of appropriations with respect to the development of the water resource projects and programs in their States as well as the entire Upper Colorado River Basin, and the States' testimony is fully supported by the Commission. You will note that the States' requested funding for the Fiscal Year 1991 ongoing program for the Colorado River Storage Project and participating projects is that proposed in the President's Budget for the Bureau of Reclamation.

Specifically, the Upper Colorado River Commission supports an appropriation of $144.238 million for the Bureau of Reclamation's regular construction program. Of that amount, $13.415 million is for the Animas-La Plata Project in Colorado and New Mexico, $81.773 million is for the Bonneville Unit of the Central Utah Project in Utah, and $49.050 million is for the Dolores Project in Colorado. The funding levels supported by the Upper Colorado River Commission are the same as the amounts contained in the President's budget and are as follows:

Project	President's FY 1991 Budget (Thousand Dollars)
Animas-La Plata Project	$ 13,415
Bonneville Unit (CUP)	81,773
Dolores Project	49,050
	$144,238

Funding levels contained in the President's Fiscal Year 1991 Budget for other activities associated with the Colorado River Storage Project and participating projects are fully supported by the Commission and include:

Activity	President's FY 1991 Budget (Thousand Dollars)
CRSP, Drainage and Minor Construction:	
Central Utah Project:	
Jensen Unit	$ 30
Dallas Creek Project	745
Total	$ 775
CRSP, Preconstruction Activity:	
Central Utah Project:	
Uintah Unit	$ 50
Total	$ 50
CRSP, Section 8:	
Central Utah Project:	
Bonneville Unit	$16,988
Dolores Project	1,366
Dallas Creek Project	5,110
Wayne N. Aspinall Unit	572
Seedskadee National Wildlife Refuge	2,932
Total	$26,968

In addition, the Upper Colorado River Commission supports the Bureau of Reclamation's funding request for Fiscal Year 1991 for development and implementation of the Colorado River Salinity Control Program described in Public Law 93-320, as amended.

The Colorado River Salinity Control Program, which authorizes both Title I and Title II projects, is designed to maintain salinity levels in the Colorado River system within established numeric criteria while the Basin States continue to develop their Compact-apportioned waters. This program is endorsed by the seven Colorado River Basin States and the Federal Government and is essential to the overall development and management of the Colorado River Basin. Specifically, the Commission supports an appropriation of $14.295 million for the Bureau of Reclamation's Title I Colorado River Basin salinity control program and $24.228 million for the Title II program. The funding levels supported by the Upper Colorado River Commission are the same as the amounts contained in the President's Budget and are as follows:

	President's FY 1991 Budget (Thousand Dollars)		
TOTAL Title I Program			$14,295
Title II Plan Formulation		$ 935	
Title II Construction			
(a) Grand Valley	14,732		
(b) Paradox Valley	3,380		
(c) Lower Gunnison Winter Water	4,726		
Subtotal		$22,838	
Title II Operation and Maintenance			
(a) Grand Valley	295		
(b) Paradox Valley	160		
Subtotal		$ 455	
TOTAL Title II Program Funding			$24,228
TOTAL Title I and Title II Program			$38,523

Further detailed statements regarding the specific funding for the salinity program will be presented in the testimony of the Executive Director of the Colorado River Basin Salinity Control Forum as well as by representatives of the Colorado River Basin States.

On behalf of the Upper Colorado River Commission, I thank you for providing the Commission an opportunity to present this statement for the Subcommittee's consideration.

STATEMENT OF MR. AND MRS. R.K. SWANSON, PARADISE VALLEY, AZ

Please consider carefully the funding for Reach 4 of the Arizona Canal Diversion Channel. The facts and figures presented by the County Board of Supervisors, the Army Corps, and Congressman Kyl conflict with those of Citizens in Opposition to Reach 4. Hear both sides! A few facts to consider:

1) While there was real flood control need in Reaches 1, 2 and 3, the environmental destruction inherent in the Reach 4 extension outweighs the dubious flood control need.

The cement ditch will border the most scenic and recreationally-used canal in Phoenix, destroying the natural ambiance of the canal and permanently scarring one of Phoenix' historic and tourist treasures, the Biltmore Hotel area.

Expanses of cement hold desert heat, raise nighttime temperatures, demand more air-conditioning energy. Residential areas surround Reach 4.

2) Reach 4 was in response to a 1972 flood which caused 3.8 million damage. Reach 4 will cost in excess of 80 million, was designed for a once-in-a-hundred year flood, and the project life expectancy is 90 years!

3) The last few years have seen a dramatic increase of interest in environmental issues in Arizona. Opposition to this misuse of funds is widespread. If flood control is necessary, we want an environmentally sensitive alternative.

PLEASE SPEND FLOOD CONTROL DOLLARS WISELY, WHERE THE NEED IS GREAT!

STATEMENT OF JACK L. STONEHOCKER, DIRECTOR, COLORADO RIVER COMMISSION

As a Nevada representative of the Colorado River Basin Salinity Control Forum, I am writing in support of the President's Fiscal Year 1991 budget request for $23,773,000 for the Bureau of Reclamation's Colorado River Basin Salinity Control Program.

Since salinity is one of the major problems in the Colorado River system, it is imperative that the salinity control program not be curtailed and that adequate funding be appropriated in Fiscal Year 1991 so that the congressionally directed salinity objectives can be achieved. Therefore, I request your support for the Administration's current recommendation for funding to the Colorado River Basin Salinity Control Program.

STATEMENT OF METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

I am writing to solicit your support for adequate federal funding for the Department of the Interior's Colorado River Salinity Control Program. This program was authorized by Congress under the Colorado River Basin Salinity Control Act and the Clean Water Act. The Metropolitan Water District of Southern California is responsible for meeting the supplemental water requirements of over 14 million people and the economy which supports them. In 1989, Colorado River water was used to meet 50 percent of these supplemental needs.

Metropolitan is concerned with maintaining the quality of this vital source of water supply. The President's proposed budget for fiscal year 1991 provides funding of $23.772 million for the Department of the Interior's Bureau of Reclamation for the Colorado River Salinity Control Program. The Colorado River Board of California and the Colorado River Basin Salinity Control Forum, the interstate organization responsible for coordinating the Basin states' salinity control efforts, have recommended the enactment of the President's proposed 1991 funding level of $23.772 million. This level of funding is necessary to meet the salinity control activities schedule in order to maintain the water quality standards adopted by the seven Colorado River Basin states and approved by the Environmental Protection Agency.

Metropolitan concurs with the recommended funding level of $23.772 million for the Bureau of Reclamation's activities. Your assistance and support in ensuring sufficient funding of the Colorado River Salinity Control Program for 1991 and beyond would be greatly appreciated by Metropolitan.

SUBCOMMITTEE RECESS

Senator **Domenici**. Is there anything else? All right. We stand in recess until 1:30 this afternoon. Thank you.

[Whereupon, at 11:55 a.m., Thursday, March 29, the subcommittee was recessed, to reconvene at 1:30 p.m., the same day.]

(AFTERNOON SESSION, 1:30 P.M., THURSDAY, MARCH 29, 1990)

NONDEPARTMENTAL WITNESSES

HEARING PROCEDURE

Senator **BURDICK** [presiding]. The committee will come to order. I want to welcome each of you to the hearing today. We have a large number of witnesses that wish to be heard. Therefore, in accordance with our notification to each of the witnesses, it will take some self-restraint on the part of everyone to hold oral testimony to a minimum in order that all that have requested an opportunity to testify can be heard.

I ask that the detailed prepared statements that each of you have worked out carefully be submitted to the record, and they will be carefully reviewed. Then if each witness will summarize or highlight the important points in his oral testimony, it would be most helpful.

GARRISON DIVERSION UNIT, NORTH DAKOTA

Senator Conrad, Governor Sinner, Chairman Richter, Chairman Lone Fight, and Mr. Murray, we are pleased you could be with us today to present your views on the President's 1991 budget with respect to the Garrison diversion project in North Dakota.

As we all know, the President has included no funding for the Garrison project in his 1991 budget. With this action, the administration is choosing to completely ignore the promise the Federal Government made to North Dakota more than 30 years ago.

That promise was to construct the Garrison Diversion Unit as compensation for the more than 500,000 acres of prime farmland North Dakota lost to Lake Sakakawea. Since construction of the Pick-Sloan project, downstream States have saved billions of dollars in flood damage, while we in North Dakota suffer a permanent flood.

Particularly troubling about the President's budget is that it comes just 4 years after we downsized the project to overcome the concerns of those who historically opposed the project.

We thought that when President Reagan signed the Garrison Reformulation Act in 1986, we would finally see real progress on the project. Instead, we see our project's budget zeroed out.

I certainly plan to continue my efforts to move the Garrison project forward. It would be much easier with the administration behind us.

So we have distinguished witnesses today to talk on this subject. I would first like to call upon my colleague from the great State of North Dakota, Senator Conrad.

STATEMENT OF HON. KENT CONRAD, U.S. SENATOR FROM NORTH DAKOTA

Senator **Conrad**. Thank you, Mr. Chairman.

In the interest of time and the excellent witnesses that you have assembled, I will ask that my full statement be made part of the record and I will simply summarize by confirming what the chairman has already indicated.

North Dakota was made a promise. North Dakota made a sacrifice, 500,000 of the best acres of farmland in our State, and the promise that was made in return was that North Dakota would receive a water project that would provide municipal and industrial supplies and would provide an irrigation project that would cover a million acres in the State of North Dakota.

That has gone through a series of compromises, so that today we stand with a project on irrigation of only 150,000 acres, and now the administration has proposed breaking faith with the State of North Dakota completely, zeroing out the project, forgetting that they were the sponsors of a commission that led to the reformulation only 4 years ago, forgetting that they promised $200 million of MR&I, forgetting that they promised 150,000 acres of irrigation.

Mr. Chairman, we simply cannot let them forget. It is our responsibility in the Congress to make certain that the Federal Government keeps its promise to the people of North Dakota.

I want to acknowledge the efforts of the chairman over the entire history of this project in seeing it comes as far as it has and in carrying the fight so that we can be certain the people of North Dakota ultimately receive what is rightfully theirs. I want to publicly thank the chairman for the steadfast leadership he has provided, and also to our Governor, who has led the fight in North Dakota and helped us at the Federal level.

With that, Mr. Chairman, I again want to thank you for all the efforts that you have extended for so many years, and I think, once again, we will be successful in this fight.

Thank you, Mr. Chairman, and I look forward to the testimony of the other witnesses.

STATEMENT OF SENATOR KENT CONRAD

Mr. Chairman, and Members of the Committee, thank you for this opportunity to appear before you.

Over its long history, the Garrison Diversion Project has suffered many setbacks, but few have been as devastating as the decision by the Bush Administration to provide no funding for the Project in Fiscal Year 1991. The Pick-Sloan Missouri Basin Water Projects of the 1940s and 1950s inundated more than one half million acres of good farm land in North Dakota. This was done with the promise that the Federal government would provide to the State of North Dakota a one million acre irrigation project to offset the impact. Since that initial compromise the return to North Dakota has been diluted to less than 150,000 acres. The proposed Administration budget threatens to take even that away.

In 1986, Congress passed, and President Reagan signed, the Garrison Diversion Unit Reformulation Act. All parties to the Act believed that it settled, once and for all, the disputes over Garrison and that there would be no question over the reformulated project moving toward completion. Former President Reagan hailed the compromise as "an acceptable solution of this long-standing issue" when he signed the Reformulation Act into law. Now, the Bush Administration believes it can walk away from the commitment the Federal government made to our state. North Dakotans are determined *to hold the Administration accountable for its unjustified action. North Dakota is entitled to this project.*

The State of North Dakota needs the benefits provided by the Garrison Project. The past two years of drought underscore the importance of this project to our state. A plentiful and reliable source of water is vital to stimulating economic development in our rural areas and cities.

A major reason North Dakota agreed to the terms of the 1986 Reformulation Act was the inclusion of a $200 million Municipal, Rural, and Industrial water grant program and the guarantee of a 100 cubic-feet-per-second supply of water to the Red River Valley. Elimination of the Garrison Project would cancel these programs and severely effect the state's economic development. For example, the economic expansion envisioned by the communities of the Red River Valley, including Fargo and Grand Forks, would be jeopardized, affecting the economic health of the entire region.

The continuing drought has also had a dramatic impact upon Devils Lake. Devils Lake is one of the best fishing lakes in the Upper Midwest and provides many economic benefits to the surrounding area. Without a supply of fresh water within two to four years this tremendous recreation industry could collapse. Experts predict that a drop in the lake level of as little as 2.5 feet over the next two to four years will cause most fish in the lake to die. Saving Devils Lake is an environmental necessity.

Water from the Garrison Project is the only reasonable source of supply of fresh water large enough to save the lake.

Native Americans in North Dakota felt the greatest impact of the Pick-Sloan Missouri Basin Project. This fact was recognized by the Joint Tribal Advisory Committee in its report to Congress in 1986. Members of the Fort Berthold and Standing Rock Indian Reservations are anxious to receive the benefits promised by the 1986 compromise to stimulate economic growth.

Even more important is the impact on public health in tribal areas. On the Standing Rock Reservation for example, the North Dakota Public Health Service has advised the residents of one community against having infants drink the water because of water-borne diseases. Many parents are concerned about the long-range effects that the drinking of contaminated water will have on their children. I share those concerns and believe this situation is absolutely unacceptable and am committed to assuring the quality of the water supply. Restoring funding for Garrison will help solve both the health and economic problems.

According to budget documents, the reasons for the decision to terminate the Project are the increased cost of completing Garrison, including extensive mitigation costs, and preliminary findings of the Inspector General concerning the economics of the Project.

Environmental concerns and costs of mitigation were addressed by the Reformulation Act of 1986. Spokesmen for *environmental groups agree that the project as reformulated is acceptable and that it's time to fulfill a 46 year old promise.*

The preliminary findings of the Inspector General should come as no surprise due to the massive scaling down of the Project. The reformulation of this Project was a political compromise that the state agreed to only reluctantly after protracted negotiations. The 1986 Reformulation Act established compensation for impacts suffered as a result of helping the Nation to reduce the death and destruction caused by annual flooding along the Mississippi and Missouri Rivers.

If the Garrison Diversion Project is terminated the taxpayers will be abandoning approximately $350 million in facilities already constructed. The Bush Administration is breaching a commitment made to the people of North Dakota by the Congress and previous Administrations. The State again seeks your help to right this injustice.

Mr. Chairman, completion of the Garrison Diversion Project as reformulated is critical. I believe $45 million for Fiscal Year 1991 is an appropriate funding level. I am optimistic that you and the members of the Subcommittee will help North Dakota put this Project back on track, and I thank you again for this opportunity to appear before you.

STATEMENT OF HON. GEORGE SINNER, GOVERNOR OF NORTH DAKOTA

Senator **Burdick**. Thank you, Senator, for those kind words.

I will next call upon Governor Sinner from the Great State of North Dakota.

Governor?

Governor **Sinner**. Thank you, Senator.

Let me add my thanks to those of the Senator for the work you have done, and add a commendation to Kent as well, as well as Congressman Dorgan, for the extremely difficult and continuous work that has been done by them in trying to get Congress and the Federal Government to understand the incredible commitments and the incredible outrage that has occurred with the breaking of those commitments in the State.

I want to highlight two or three things. There are a lot of people hurt by the broken promises. The Indian people who on one reservation lost about half of their territory have not even gotten a water distribution system on their own reservation as a result of this project. They have lost vast areas of their property, the most productive part, and as Mr. Lone Fight will tell you, there have been dire repercussions. And yet the national government continues to ignore the commitment that it made many years ago at the beginning of this project.

DEPARTMENT OF THE INTERIOR IG REPORT

I want to comment also on the Department of the Interior's IG report which has come out recently. There are a couple of things that are very important about that IG report. First of all, it would be very simple to take any project, I don't care where you look, break out a part of it, separate it from the total, and find that something was wrong with it.

Unless people look at the whole project as it was put together in the beginning, realize the political changes that were made, the environmental concerns that have been encompassed in a new formulation, there is no way that you can make this project work.

That leads me to the second, really almost an unbelievable flaw in the IG report. The IG report gives absolutely no value to the environmental and wildlife advantages of this project. It is as if they had not realized what all the rest of the society has realized, that there are tremendous advantages to paying attention to our environment and to our wildlife habitat.

Millions are being spent in lots and lots of areas of the United States to preserve wildlife habitat, to preserve wetlands, and everyone assumes huge advantages for the society; and yet, the IG report is completely silent on the benefits of those changes that are in this reformulation and that are encompassed in the project as it is planned.

Finally, North Dakota has been in the forefront of environmental and wildlife concerns. North Dakota was the very first State to have a no net loss law on wetlands. In fact, the concept and the words "no net loss" were developed in North Dakota when the Garrison Reformulation Act was passed.

It is a very successful act, that plus many other things that the State has done. We have developed with the Fish and Wildlife

Service the first formal working agreement for the handling of wetlands, the resolution of disputes, and for a peaceful working relationship between the several interests that are involved in wetlands and involved in the society in our State.

In addition to that, 12,000 acres in 35 areas have been acquired by Fish and Wildlife Service for habitat in our State in these last 2 or 3 years; 14,000 acres of perpetual easements have been acquired to preserve wetlands. In addition, it was in North Dakota that the idea of including wetlands in CRP programs was born as part of our wetland conservation task force.

The point of all this is that we think that it makes sense for people to work together on all sides of this issue to build a consensus, and we have successfully done that in many areas. We are going to continue to fight for rational dealing with these problems, trying to bring society together in rational solutions.

It is not without hard work, but the State of North Dakota has actually led the Nation in many, many ways. It is irritating to hear people from places that have long since abandoned their wetlands lamenting the fact that there are not more wetlands in North Dakota.

I think we are second or third in the portion of our land that has been preserved in wetlands in the United States, and God knows that there have been some lost, but in recent years, the progress toward preserving them has been very, very significant.

Finally, Mr. Chairman, as the Senator has pointed out, this commitment, which was made some 45 years ago, we gave up almost 500,000 acres of the richest land in North Dakota to provide a reservoir to prevent flooding in the lower Missouri. The lower States have gotten all their benefits, and we have never really been given any part of the compensation we were promised.

I cannot belabor that anymore except to say that our people are at a point of actual outrage and saying either get the project out of here, take the dam out or give it to us or fulfill the promises.

I plead with you, Senator, to continue your long struggle, and it must be a tiring one, to bring some satisfaction to the State, and I thank you.

Senator **BURDICK**. Thank you, Governor, for your statement.

Our next witness will be the chairman of the Garrison Conservancy District, Chairman Richter.

STATEMENT OF CHARLES A. RICHTER, CHAIRMAN, GARRISON DIVERSION CONSERVANCY DISTRICT

ACCOMPANIED BY EMERSON MURRAY, MANAGER, GARRISON DIVERSION CONSERVANCY DISTRICT

Mr. **RICHTER**. Thank you, Senator.

My name is Charles Richter, presently chairman of the Garrison Diversion Conservancy District Board of Directors.

Governor Sinner and Senator Conrad have covered all the items that my oral statement has, and my statement will be on file. I have two or three items I would like to comment on.

MUNICIPAL AND RURAL WATER NEEDS

One of them is the matter of the zero budget will also provide no funds to meet municipal and rural water needs upon the Indian reservations as contemplated in the 1986 Reformulation Act, when $20 million was authorized for this purpose, nor would it provide a single dollar as a down payment upon the $67 million irrigation program authorized on Indian reservations in 1986.

A zero budget would also break a commitment to the State and its environmental and wildlife community through stopping development on the major blocks of mitigation enhancement of wetlands and habitat. Further, wildlife refuge mitigation enhancement would be indefinitely postponed.

We ask the Congress not to add to the litany of broken promises and commitments to the State of North Dakota but rather to reaffirm the commitment of the Federal Government to its statutory, contractual and moral obligations by providing a reasonable level of appropriations for the Garrison Diversion Unit in fiscal year 1991.

It may not be possible under the constrained fiscal situation of the Federal Government to provide the $70 million to $80 million that the project should be receiving in 1991, but we strongly urge an appropriation of $45 million based on the attached proposed budget to at least in a minimal way meet the commitment that we so strongly feel exists.

Senator, I would like to also thank you for all the work you have done for us previously, and we hope it continues and we are sure it will

[The statement follows:]

STATEMENT OF CHARLES A. RICHTER

My name is Charles A. Richter, Chairman of the Garrison Diversion Conservancy District in North Dakota. I appreciate this opportunity to file a statement in support of adequate appropriations for the Garrison Diversion Project. I will summarize this statement in my verbal testimony before the Committee.

The 1944 Pick-Sloan Missouri Basin Program was driven by the need to provide downstream flood protection for the Lower Basin States following the disastrous 1943 floods. To a lesser extent, it was driven by the desire to provide navigation benefits to the Lower Basin States and power generation benefits to all the states in the general region. North Dakota accepted the permanent flooding of 550,000 acres of rich river bottom land as reservoir sites in order to provide these benefits for the Lower Basin States. This sacrifice has cost North Dakota over $1.5 billion in lost personal income in 1984 dollars since the dams were closed. This is a huge loss for a small state of 652,000 population. North Dakota's benefit from participation in the program was the federal statutory and master contract commitment to provide slightly over one million acres of irrigation to stabilize the economy in this drought-prone state.

Because a relatively high proportion of this flooded river bottom land was found within two Indian reservations in North Dakota, the impact upon the Standing Rock Sioux Tribe and the Three Affiliated Tribes was especially severe.

The long history of delay and broken commitments on the part of the federal government under the 1944 Act is well-known. North Dakota waited 21 years after its passage before irrigation the 1944 Act promised was finally authorized in 1965. Even then, it was for only a phase of 250,000 acres and not the one million acres committed in the 1944 Act. This was only the first of a long series of broken commitments.

The project was included in a presidential "hit list" during the 1970s, and the Department of Interior's support for the project then evaporated in spite of statutory obligations and contracts with the State of North Dakota. Consequently, the project slowed to a halt. The Secretary of Interior subsequently compromised a lawsuit brought by an environmental organization by agreeing to halt the project. His decision was finally overturned by a Federal Court decision in a lawsuit brought by the State of North Dakota.

Following a report by the International Joint Commission under the 1909 Boundary Waters Treaty, the federal government unilaterally agreed to suspend any activity leading to irrigation in the Hudson Bay watershed and, after much negotiation, finally agreed to proceed only with an 85,000-acre project portion that was entirely within the Missouri River watershed.

In 1984, the project was stopped entirely while a congressionally mandated special commission studied the project and made recommendations for radical change. This resulted in a proposal for a further permanent reduction of irrigation acreage from 250,000 to 113,000 acres, plus 17,000 acres on Indian reservations. In addition, the report would deauthorize several essential reservoirs and substitute costly and inefficient canals and water holding areas. This report again disregarded commitments of law and contracts with the State of North Dakota.

With the passage of the Garrison Diversion Unit Reformulation Act of 1986 (designed to meet environmental and other concerns) and the recommitment of the Congress and the Administration to the project, it was hoped by North Dakota that, finally, at least this smaller fraction of the 1944 promise would be kept by the federal government.

This was not to be. In 1986 the Administration proposed an FY87 budget of only $2.5 million, which would mothball the project. Congress, in part, altered this effort to again break the new commitment through providing at least a modest appropriation of $35 million for FY87.

The Administration FY90 budget attempted to again practically mothball the project, in spite of promises by the Secretary of Interior that if modest appropriations were accepted for FY88 and FY89, that major appropriations would be available in 1990 and subsequent years. Again, this was another attempt to break the commitments and the 1985 reaffirmation of the federal government for even the reduced project. Congress, however, disregarded the administration budget and provided at least a minimal $30 million appropriation for FY90.

North Dakota reluctantly accepted the radically scaled-down project in 1986 in part because of the inclusion of the $200 million Municipal, Rural, and Industrial water grant program and the provision of 100 cubic-feet per second of water to the Red River for municipal and industrial purposes in eastern North Dakota.

This year, the Office of Management and Budget recommended no funds in the Administration FY91 budget. This would not only mothball the irrigation and central facility portion of the project, but would bring the municipal and rural water programs to a complete halt, in spite of the engineering work and the contracts that are outstanding. Termination of ongoing construction contracts would result in substantial damage payments to contractors, with no gain to either the federal government or North Dakota.

The Administration budget would also provide no funds to meet municipal and rural water needs upon the Indian reservations, as contemplated in the 1986 Reformulation Act when $20 million was authorized for this purpose, nor would it provide a single dollar as a down payment upon the $67 million irrigation program authorized on Indian reservations in 1986.

A zero budget would also break a commitment to the state and its environmental and wildlife community through stopping development on the major blocks of mitigation and enhancement wetlands and habitat. Further, wildlife refuge mitigation and enhancement would be indefinitely postponed.

We ask the Congress to not add to the litany of broken promises and commitments to the State of North Dakota, but rather to reaffirm the commitment of the federal government to its statutory, contractual, and moral obligations by providing a reasonable level of appropriations for the Garrison Diversion Unit Project in FY91. It may not be possible under the constrained fiscal situation of the federal government to provide the $70 to $80 million that the project should be receiving in FY91, but-we strongly urge an appropriation of $45 million, based on the attached proposed budget, to at least in a minimal way meet the commitment that we so strongly feel exists.

GARRISON DIVERSION UNIT
FY-1991 FUNDING REQUEST
45 MILLION PROGRAM

FEATURE	CONTRACTS AND STUDIES	NON-CONTRACT (ADMIN. OVERHEAD)	TOTAL
	-------------MILLION	DOLLARS----------	
OPERATION & MAINTENANCE McClusky Canal New Rockford Canal Snake Creek Pump Plt. Oakes Test Area	3.25	1.5	4.75
MR & I WATER	16.90	.2	17.10
INDIAN IRRIGATION Fort Yates	.47	.03	.50
CONSTRUCTION CONTRACTS New Rockford Canal Oakes Test Area	12.48	1.5	12.98
WILDLIFE FACILITIES	2.75	1.0	3.75
WETLAND TRUST FUND	2.25	-	2.25
RECREATION	1.50	.4	1.90
PRE-CONSTR. ACTIVITIES	-	.8	.80
	39.6	5.4	45.0

GARRISON DIVERSION UNIT
DETAIL BREAKDOWN OF FY-1991 FUNDING
45 MILLION PROGRAM

DRAFT

OVERHEAD COSTS

Salaries 105 FTE @ $31,000 (Incl. Fringes)	$ 3,230,000	
Overtime @ 3% of total salaries	100,000	
Rent, Communications, Utilities	250,000	
Materials & Supplies (office supplies)	100,000	
Travel & Per Diem (Proj. Regional, Denver, etc.)	250,000	
Transportation of Things (empl. move, frgt., etc.)	100,000	
Regional Office Direct Labor Charges	250,000	
CPA (Centralized Proj. Activities Regional Office)	690,000	
Engineering and Research Center Charges	250,000	
Data Processing Charges	100,000	
Laboratory Expenses (matls. equip. tests etc.)	80,000	
Subtotal Overhead Cost		$ 5,400,000

CONTRACTS

OAKES TEST AREA		
Ring dikes	$ 9,720,000	
Wells and Pipe System (Incl. Design by SWC)	470,000	
Pumps and Prime Movers	430,000	
Subtotal Contract cost O.T.A.		$10,620,000
NEW ROCKFORD CANAL		
Reach 2 Contract	$ 1,860,000	
Subtotal Contract Cost N.R.C.		$ 1,860,000

OPERATION & MAINTENANCE (Contractural Work)

MCCLUSKY CANAL/SNAKE CREEK PUMPING PLANT		
Beachbelt and Berm Drains	$ 900,000	
Gravel Enevelope	160,000	
Weed Control	80,000	
Seepage Control/Easements	200,000	
Canal Dredging/Cleaning	500,000	
Miscellaneous Supplies and Equipment	160,000	
Subtotal O&M Mcclusky Canal/SCPP		$ 2,000,000
NEW ROCKFORD CANAL		
Manhole Access Ramps	$ 150,000	
Weed Control	20,000	
Membrane Lining Cover Repair	290,000	
Miscellaneous Supplies and Equipment	40,000	
Subtotal O&M New Rockford Canal		$ 500,000

OAKES TEST AREA		
Study Program GDCD/NDSU Agreements	$ 550,000	
Energy and Wheeling	60,000	
Noxious Weed Control	40,000	
Miscellaneous Supplies and Equipment	100,000	
Subtotal O&M Oakes Test Area		$ 750,000
IRRIGATION INDIAN		
Fort Yates Irrigation Facilities	$ 470,000	
Subtotal Indian Irrigation		$ 470,000

MUNICIPAL, RURAL & INDUSTRIAL WATER

State MR&I Water		
Indian MR&I Water		
Subtotal MR&I Water		$ 16,900,000

FISH AND WILDLIFE FACILITIES

Land Acquistion	$ 600,000	
Mitigation Development Scattered Tracts	900,000	
Lonetree Reservoir Wildlife Development	300,000	
Audubon Lake Wildlife Development	200,000	
Devils Lake Stabilization Study	200,000	
NDSU/Inter Basin Biota Study	100,000	
Refuge Monitoring	100,000	
Transfer Funds to FWL & NDGFD	350,000	
Wetland Trust Fund	2,250,000	
Subtotal Fish and Wildlife Facil.		$ 5,000,000

RECREATION FACILITIES

Grahms Island, Devils Lake	$ 1,050,000	
Black Tiger Bay, Devils Lake	250,000	
Turtle Lake Park Board	50,000	
Shelvers Grove	50,000	
Jamestown Reservoir	100,000	
Subtotal Recreation Facilities		$ 1,500,000

TOTAL FY-1991 PROGRAM $ 45,000,000

DRAFT

OAKES TEST AREA

Senator **Burdick**. Thank you, Mr. Richter.

I note that in the detailed breakdown of the proposed funding for fiscal year 1991 which accompanies your statement, you propose that $9.72 million be spent on constructing ring dikes at the Oakes Test Area. Could you or your manager, Mr. Murray, comment briefly on this proposal?

Mr. **Murray**. Mr. Chairman, I am Emerson Murray, manager of the Garrison Conservancy District. Perhaps I can comment on that.

Senator **Burdick**. Proceed.

Mr. **Murray**. The State of North Dakota proposed to the Bureau of Reclamation a ring dike system at the Oakes Test Area. As you know, when the drains were placed under the Oakes Test Area of 5,000 acres, it was anticipated that Missouri River water would be available in about 1 year. We all know that is some years past and it is not now available, and we have largely destroyed the usefulness of that 5,000 acres for dryland farming. Yet, we have only been able to place under irrigation under 1,000 acres of land with water from the James.

The ring dike system adjacent to a pumping plant on the James River at Oakes would skim flood waters off the James in the spring, store them for use in July and August, and permit the full test to continue and to provide relief to those farmers who have suffered in their dryland farming operations.

It has the advantage of costing about $16 million as against well over $30 million the Glover Reservoir would cost that it is proposed to replace, and would have full utility in the long-range features of the project.

Senator **Burdick**. Thank you very much for that information. In other words, the ring dike would cost about half as much as the proposed Glover Reservoir.

Mr. **Murray**. That is correct, Mr. Chairman.

Senator **Burdick**. And do the same job or better?

Mr. **Murray**. We believe that it will do better because there will be less loss through evaporation and bank storage because the ring dike is right at the source of the pumping station instead of having to come down a river some miles to reach the Oakes Test Area.

Senator **Burdick**. Our last witness is an old friend, Chairman Lone Fight.

You have the floor.

STATEMENT OF EDWARD LONE FIGHT, CHAIRMAN, THREE AFFILIATED TRIBES

Mr. **Lone Fight**. Thank you, Mr. Chairman.

I would like to also echo the same sentiments, and that is I appreciate the fine leadership that you have shown the State of North Dakota, not only for the Indians but for all citizens in the State of North Dakota. You have stood by the Indian projects and Indian features when it was probably unpopular to do so, and we commend you for that very highly.

I represent the Indian features of the Garrison diversion unit. We have worked harmoniously with the State, the conservancy district, and all the other societies and organizations that have a link to the Garrison project.

The Indian features are at a point where we need to turn some dirt, put some pipe in the ground, and deliver some good water to the Indian homes, and that is the point where we are at. So we need some very good quality water going into the homes so as to offset some of the problems, like diabetes. We have the dubious distinction of having the highest diabetes rate in the Nation, and I believe this is directly linked to the type of the quality of water available. What this will do, it will give us an effort to mitigate those issues, very serious health issues.

Again, I would like to say that Three Affiliated Tribes have lost 156,000 acres of prime bottom land for the creation of Lake Sakakawea. We have given up so much, and we have received nothing. This would be one gesture by the Federal Government to fulfill its trust responsibility and carry on its promises.

So we recommend that $45 million be appropriated for the Garrison unit.

Thank you, Senator.

Senator BURDICK. Thank you, Mr. Chairman.

This concludes the testimony of the North Dakota witnesses. I thank you all for your presence today, gentlemen.

[The statements follow:]

STATEMENT OF EDWARD LONE FIGHT

Mr. Chairman, my name is Edward Lone Fight. I am the Chairman of the Three Affiliated Tribes. The Devils Lake Sioux Tribe, the Standing Rock Sioux Tribe and the Three Affiliated Tribes thank you and the distinguished committee members for this opportunity to testify in support of funding levels necessary to implement P.L. 99-294, the Garrison Diversion Unit Reformulation Act of 1986. I am here with my North Dakota neighbors because this is a project that has widespread support because it benefits the entire state.

When the dams were constructed promises were made to the State and tribes. It was promised that those impacted by the dams would one day benefit, as others had, from the construction. This hearing is not really about appropriations for water projects. It is about promises; those made in the past and the promise the future holds. I would like to share with you the promise and hope that the projects associated with Garrison hold for three impoverished Indian reservations.

This hearing is a clear manifestation of the willingness of Congress to fulfill the federal government's trust responsibility by providing tangible opportunities that promote Indian self-determination. The tangible opportunities, embodied in Sections 3 and 5 of P.L. 99-294, provide economic, environmental and health benefits to the residents of the Fort Totten, Standing Rock, and Fort Berthold Indian Reservations.

The economic benefits, as consistent with Indian self-determination, afford direct tribal participation during the development and operation of the various water utilization projects authorized by the Act. Without exception the Tribes are undertaking the design and construction of project features by utilizing the authority of P.L. 93-638. This insures that the projects are truly tribal projects and that they are implemented in the most efficient manner possible. The construction of project features will also assist legitimate Indian-owned construction businesses.

The environmental values are being met and maintained as the Tribes work with the Federal government, on a government-to-government basis, to ensure the protection of the environment.

STATEMENT OF DEVILS LAKE SIOUX TRIBE

MISTER CHAIRMAN, MY NAME IS CARL R. MCKAY AND I AM THE CHAIRMAN OF THE DEVILS LAKE SIOUX TRIBE OF THE FORT TOTTEN INDIAN RESERVATION. I APPRECIATE YOUR GIVING ME THE CHANCE TO TESTIFY IN THIS AREA OF CRUCIAL IMPORTANCE TO MY TRIBE.

UNDER SECTION 5 OF THE GARRISON DIVERSION UNIT REFORMULATION ACT OF 1986 (P.L. 99-294), "THE SECRETARY OF THE INTERIOR IS AUTHORIZED AND DIRECTED TO CONSTRUCT, OPERATE, AND MAINTAIN SUCH MUNICIPAL, RURAL AND INDUSTRIAL WATER SYSTEMS AS HE DEEMS NECESSARY OF MEET THE ECONOMIC, PUBLIC HEALTH AND ENVIRONMENTAL NEEDS OF THE FORT BERTHOLD, STANDING ROCK, AND FORT TOTTEN INDIAN RESERVATIONS." PRELIMINARY STUDIES BY UNITED STATES BUREAU OF RECLAMATION (FORT TOTTEN DECISION DOCUMENT) HAS INDENTIFIED CANDIDATE MR&I NEEDS EXCEEDING $50 MILLION. AT PRESENT, ONLY $4.5 MILLION IS AUTHORIZED AND ALLOCATED FOR USE ON MY RESERVATION. THIS CONCERNS THE DEVILS LAKE SIOUX TRIBE.

THE TRIBE HAS WORKED WITH UNITED STATES BUREAU OF RECLAMATION IN THEIR PLANNING PROCESS TO PRIORITIZE OUR OVERALL WATER NEEDS AND UTILIZE THE $4.5 MILLION TO MEET OUR MOST CRITICAL NEEDS UNDER A PHASE I PROJECT. WE HAVE ELECTED TO CONTRACT THE DESIGN AND CONSTRUCTION ADMINISTRATION SERVICE WITH PRIVATE ENTITIES TO ALLOW THE AVAILABLE MONIES TO BE EXTENDED AS FAR AS POSSIBLE. WE ARE ALSO EXPLORING COST SHARING ARRANGEMENTS WITH OTHER FEDERAL AGENCIES (HUD, IHS, ETC.) TO SEE IF WE CAN MAKE OUR MONEY GO FARTHER. LOCAL AND STATE INSTITUTIONS HAVE ALSO CONTACTED THE TRIBE TO SEE IF JOINT VENTURE PROJECTS CAN BE DEVELOPED. WE ARE REVIEWING THESE PROPOSALS TO ASCERTAIN IF THERE ARE COST SHARING FEATURES WHICH CAN BENEFIT THE TRIBES WATER NEEDS.

OUR GOAL IN PHASE I IS TO PROVIDE A SAFE, RELIABLE, POTABLE WATER SUPPLY TO THE FOUR PRIMARY INDIAN COMMUNITIES ON THE RESERVATION. THIS WILL MEET THE NEEDS OF THE MAJORITY OF THE INDIAN HOUSEHOLDS. SELECTED RURAL WATER USERS ALONG THE MAIN WATER LINE WILL BE SERVED, IF FUNDING IS AVAILABLE.

THE DEVILS LAKE SIOUX TRIBE HAS BEEN AUTHORIZED BY UNITED STATES BUREAU OF RECLAMATION TO INITIATE OUR DESIGN OF THE PHASE, I SYSTEM. IT IS THE TRIBES' INTENT TO DESIGN AND BID FOR CONSTRUCTION MOST OF THE PHASE I MR&I NET WORK BY SEPTEMBER 30, 1990.

WE WANT THE OPPORTUNITY TO BID AND CONSTRUCT AS MUCH OF OUR MR&I SYSTEM IN 1990 AND 1991 AS POSSIBLE. THERE IS NO INFLATION CLAUSE IN THE P.L. 99-294 LEGISLATION. AS SUCH, EACH YEAR THAT CONSTRUCTION IS DELAYED RESULTS IN MORE HOUSEHOLDS NOT BEING SUPPLIED WITH BADLY NEEDED POTABLE WATER SUPPLIES UNDER THE PHASE I PROJECT. AT PRESENT, WE HAVE A GREAT CONCERN THAT ONE (1) OF THE PROJECTED FOUR (4) INDIAN COMMUNITIES MAY NOT BE SERVED BECAUSE MONIES MAY NOT BE AVAILABLE FOR THE LAST LENGTH OF OUR MR&I WATER SUPPLY LINE SYSTEM. WE CANNOT LET THIS HAPPEN.

IN SUMMARY, THE GOAL OF THE DEVILS LAKE SIOUX TRIBE IN FISCAL YEAR 1990 IS TO COMPLETE THE FINAL DESIGN FOR THE ENTIRE PHASE I SYSTEM AND TO CONSTRUCT KEY PROJECT FACILITIES (WELL FIELDS, PUMPING PLANTS, TREATMENT PLANTS, MAIN PIPELINE. ETC.). UNDER AN ACCELERATED SCHEDULE IN 1990 AND 1991. APPROXIMATELY $2 MILLION FOR F.Y. 1991 FUNDING IS REQUIRED TO MEET THIS GOAL.

THE DEVILS LAKE SIOUX TRIBE HAS DONE ALL THAT HAS BEEN ASKED OF THEM IN THE UNITED STATES BUREAU OF RECLAMATION PLANNING PROCESS. OUR PROJECT REPORT HAS BEEN ACCEPTED AND WE HAVE BEEN AUTHORIZED TO DESIGN OUR PHASE I MR&I SYSTEM. MY TRIBE WANTS THIS PROJECT DESIGNED AND CONSTRUCTED AS SOON AS POSSIBLE SO THAT INFLATION WILL NOT ERODE THE BUYING POWER OF OUR AUTHORIZED MONIES. PLEASE ALLOW OUR TRIBE, AND ALL THE CONSTITUTES OF NORTH DAKOTA THAT ARE INCLUDED IN THE GARRISON DIVERSION ACT TO MEET THESE GOALS BY PROVIDING ADEQUATE FUNDING FOR THE FORT TOTTEN INDIAN RESERVATION MR&I WORK EFFORTS AND ALL NORTH DAKOTA WATER PROJECTS F.Y. 1991 FUNDING NEEDS AND REQUEST OF $45 MILLION.

STATEMENT OF STANDING ROCK SIOUX TRIBE

Mr. Chairman and distinguished Committee members, my name is Charles W. Murphy. I present this testimony to support the state-Tribal proposal for the Fiscal Year 1991 budget for the Garrison Diversion Unit. Congress reformulated this project in Public Law 99-294, to fulfill the federal government's promise of assistance with water development, in return for the taking of our Missouri River bottomlands for the Pick-Sloan program. The fulfillment of that promise is very important to the Indian and non-Indian communities of North Dakota. Toward that end, we are asking that Congress provide $45 million for Garrison in FY 91. Of that figure, $5-8 million can be set aside for Indian municipal, rural and industrial (MR & I) water service for three North Dakota reservations and $2 million for Standing Rock irrigation.

INTRODUCTION

I serve as Chairman of the Standing Rock Sioux Tribe, the fourth largest Tribe of the Great Sioux Nation. We reside on the Standing Rock Indian Reservation in central North and South Dakota.

Traditionally, we established our camps and communities along the Missouri River's bottomlands. This wooded, fertile environment contained adequate groundwater for wells and stockwatering, and easy access to the Missouri River. Unfortunately, this land was needed for the Oahe Dam and reservoir project. Congress acquired our valuable bottomlands in Public Law 85-915, and they were inundated by Lake Oahe within three years.

As a result, our traditional communities and way of life have been uprooted. Our Indian communities were forced to move onto the hills and plateaus west of the river, popularly known as the "Missouri breaks." The groundwater is largely inaccessible and of very poor quality. Although the soils are rich, irrigation pumps and pivots are needed for agriculture. Mr. Chairman and distinguished Committee members, our water projects under Garrison are very important to the Standing Rock Sioux Tribe. These projects help overcome the devastating impact of the inundation of our bottomlands on the people of Standing Rock.

The Tribe has entered into contracts with the U.S. Bureau of Reclamation, authorized by Public Law 93-638 as amended, to plan, design and construct the MR & I and irrigation systems authorized for our Reservation in P.L. 99-294. We are currently designing our MR & I system and completing the planning for our irrigation project. Construction will be underway for both projects in FY 1991. We will be able to expend considerably more money and make more tangible progress than in past years. We are hoping to obtain $2 million for MR & I and $2 million for irrigation development in FY 1991. This represents an equitable allocation for Standing Rock, from an overall Garrison budget of $45 million in FY 1991.

MR & I WATER SERVICE

The availability of a plentiful and high quality water supply is vital to the survival of North Dakota's Reservation Indians. The Garrison Reformulation Act of 1986 provides specifically for MR & I on the Standing Rock, Fort Berthold and

Devil's Lake Indian Reservations. The Act authorized $20.5 million for Indian MR & I, of which Standing Rock's share is $8 million, by agreement of the parties.

We will have expended approximately half of our $8 million MR & I authorization by the end of the current fiscal year, or shortly thereafter. We have studied our rural water needs, and planned an MR & I system to serve every community and range unit, Indian and non-Indian, on our Reservation. We have prioritized our rural water needs and identified a single component of the Reservation-wide system, which we shall construct with funds provided under the existing authorization.

This component consists of pipelines from the existing public water system in Fort Yates, North Dakota, which includes a modern water treatment plant and utilizes the Oahe Reservoir as its source, to the rural communities of Porcupine and Cannon Ball.

These communities curently depend on deep groundwater, as the source for their public water supplies. This supply is not dependable, causing frequent interruptions in service. Of greater concern, though, is the water quality. The groundwater is highly mineralized, and contains iron, manganese and bacteria. The water quality in Cannon Ball is particularly bad. In December, 1986, the U.S. Public Health Service issued a warning to the local Women, Infants and Children (WIC) office, advising that water from the Cannon Ball public water system should not be provided to infants.

The project component to be constructed under the existing authorization also includes secondary distribution pipelines to rural homesites. Most residents now depend on poorly constructed or low capacity individual wells, or have water hauled to underground cisterns. These sources are often contaminated with bacteria, undesirable minerals and in some cases inorganic chemicals, and are costly to maintain. Many rural residents on the Standing Rock Indian Reservation have no running water, at all.

Funds provided for the current fiscal year are enabling the Tribe to design and construct the main water lines from Fort Yates to Cannon Ball and Porcupine, this year. The Tribe has determined that $2 million is needed in FY 1991, to provide MR & I water service to the rural homesites described above.

In sum, the Tribe has planned an MR & I water system for the entire Standing Rock Indian Reservation, to serve all water users, Indian and non-Indian. We have incorporated existing facilities into this system, as the most cost effective manner to meet the severe rural water needs of our people. As the funds to be provided under the existing authorization are inadequate to meet our needs, we are designing but one component of the Reservation-wide system that we developed. This component includes rural water service to two communities with inadequate public water systems, and to rural residents in those districts. Funds currently available are being used for the main pipelines to these communities. The Tribe will need $2 million in FY 91 to construct secondary pipelines, for water service to rural residents, many of whom now haul drinking water great distances, at considerable expense. Ultimately, the Tribe will need an additional authorization of funds, as anticipated by the authors of the Garrison Reformulation Act, to construct the Reservation-wide system that we have planned. Our research indicates that we will need an authorization of $80 million, to serve every Reservation resident with clean, potable water.

IRRIGATION DEVELOPMENT

In P.L. 99-294, Congress authorized funds for irrigation development on 2,380 acres on the Standing Rock Indian Reservation. The Tribe chartered the Standing Rock Farm, Inc. in 1983, and we currently irrigate approximately 1,400 acres. We see our irrigation development under Garrison as very important to the continued success of our agricultural enterprise at Standing Rock. In addition, our irrigation projects enable the Tribe to exercise it's valuable water rights, which we depend on for human and economic development on the Standing Rock Indian Reservation.

At present, we are in the planning stages of developing irrigation along the Grand River. The Grand is a major tributary to the Missouri, and runs through the southern portion of our Reservation.

Our planning has required extremely technical investigations of water quality and soils. Although the Grand River is a resource held in trust by the United States for the benefit of the Tribe, there has been considerable upstream development which adversely affects the water quality and streamflows on the Reservation. Surface evaporation at the U.S. Army Corps of Engineers' Bowman-Haley Dam and the U.S. Bureau of Reclamation's Shadehill Dam, and the runoff from strip-mining has affected water quality in the Grand. Reclamation's Shadehill project, upstream and directly to the west of our Reservation boundary, is operated with inadequate attention being given to our irrigation water and in-stream needs.

We are currently investigating and discussing these issues with the Bureau of Reclamation. In FY 90, we will resolve the planning issues for irrigating a number of tracts, ranging from 50 to 160 acres, along the Grand River. In FY 91, the Tribe will need $2 million for the design and construction of pumps and pivots for the identified units.

There are two final points that are noteworthy. First, the Garrison Reformulation Act specifically authorizes the Indian irrigation development that we are undertaking. Nevertheless, we are concerned that Garrison's non-Indian projects and the Indian MR & I program are funded at the expense of Standing Rock irrigation. To ensure that our successful irrigation development continues and the intent of Congress in reformulating Garrison is fulfilled, I am hoping that the FY 91 Garrison budget clearly delineates that funding is included for Standing Rock irrigation.

Second, the Bush administration, apparently prompted by a recent report of the Interior Department's Inspector General, seeks to eliminate funding for Garrison. Generally, huge non-Indian irrigation projects on river systems like the Missouri concern me, as they potentially use or pollute waters to which Indian Tribes have a prior and superior right. Nevertheless, Garrison as reformulated represents a viable and feasible project. It is neither too ambitious in scope to affect Tribal rights to the Missouri's waters, nor too scaled down to eliminate its positive impact on the region's economy. Ultimately, it represents compensation to non-Indian North Dakotans for the land taken for Pick-Sloan. I oppose the administration's efforts to eliminate Garrison's non-Indian irrigation project. I believe that both the state and the Tribes that lost land for Pick-Sloan should be compensated. North Dakota should obtain federal assistance for water development, and the Tribes are entitled to revenues from the sale of Pick-Sloan hydropower, and further authorizations of funding for water projects. Nevertheless, although the Leavitt Act insulates Standing Rock irrigation from the types of narrow, mechanistic attacks levied against Garrison by the Inspector General, let me state for the record my support for Garrison's completion.

Toward that end, I respectfully request your favorable consideration of our request that $45 million be appropriated in FY 91 for the Garrison Diversion Unit, $6-8 million of which should be allocated for Indian MR & I, with $2 million for Standing Rock irrigation.

STATEMENT OF THE CITY OF MOORHEAD, MN

My name is Morris L. Lanning, Mayor of the City of Moorhead, Minnesota, which is located on the banks of the Red River immediately adjacent to Fargo, North Dakota. On behalf of the Moorhead City Council, citizens of Moorhead, and residents throughout the Red River Valley, I offer the following remarks pertaining to the Garrison Diversion Project.

In as much as you are familiar with the project, it is not necessary to recount each painful episode of its evolution; such is a matter of public record. Suffice it to say the facts represent a litany of delay and broken commitments on the part of the federal government.

It is not too late for Congress to act responsibly. The integrity of the Garrison Diversion Project, scaled down as it is, can be salvaged if sufficient resources, a minimum of $45 million, are made available for FY '91. The compromise represented by passage of the Garrison Diversion Unit Reformulation Act of 1986 must be upheld.

Moorhead in partnership with communities throughout the Red River Valley Region has a significant and legitimate interest in the Garrison Diversion Project. The aforementioned Reformulation Act of 1986 included a $200 million Municipal, Rural and Industrial Water grant program. This program provides for the statutory allocation of 100 cubic feet per second of water to the Red River for municipal, rural and industrial purposes. I cannot overstate the importance of this allocation to the economic well-being of my City and the region.

I would implore Congress to reaffirm its committment to the Garrison Diversion Project through the allocation of at least $45 million in funding for FY '91. Our future depends on it.

STATEMENT OF THREE AFFILIATED TRIBES, FORT BERTHOLD RESERVATION

The Three Affiliated Tribes request your support to increase FY-91 Energy and Water Development Appropriations by $45 million to continue implementing Pub. L. 99-294, an amount which would ensure the necessary $3.5 million to continue development on the Fort Berthold Reservation.

Your support will enhance the justification to continue implementing the authorization's projects and ultimately the Indian irrigation and Municipal, Rural and Industrial (MR&I) features. The continued implementation will ensure Tribal participation in the project's development, a point most assuredly consistent with Self-Determination and the trust responsibility of the Federal government. The irrigation and MR&I water projects will contribute greatly to Indian country development by mitigating the debilitating health and social conditions existing on the Fort Berthold, Fort Totten and Standing Rock Sioux Reservations and by providing much needed economic opportunities thereon.

In closing, the Three Affiliated Tribes acknowledge your demonstrated concern and support on our behalf. Please contact our office should any questions arise concerning this matter.

STATEMENT OF COUNCIL OF ENERGY RESOURCE TRIBES

The Council of Energy Resource Tribes (CERT) requests your support in appropriating $45 million to continue developing in conjunction with the U. S. Bureau of Reclamation municipal, rural and industrial water systems for the Three Affiliated Tribes of Fort Berthold, Devils Lake Sioux Tribe, and the Standing Rock Sioux Tribe as authorized by P. L. 99-294. To delay the development of these systems would greatly increase total project costs not only because of future inflation but also because of the inefficient burden of demobilizing and subsequent remobilization efforts. More importantly, the development of these systems are compensatory measures that have been more than adequately justified in the public record during passage of the authorizing statute. Prompt completion of these systems are vital to the tribes in the mitigation of water bourn health problems and in laying the foundation for an improved local economy.

CERT is an organization of 44 tribes who work together to promote improved economic life for their people. We respectfully urge your efforts in completing the implementation of these water systems.

Senator **Burdick**. Is David Wagner present, and Jacques Michell? I believe the subject matter is important to New Orleans. Is that correct?

Mississippi River Navigation Projects

STATEMENT OF DAVID A. WAGNER, MANAGING DIRECTOR, PORT OF NEW ORLEANS

ACCOMPANIED BY CHANNING HAYDEN, VICE PRESIDENT, NEW ORLEANS STEAMSHIP ASSOCIATION

Mr. **Wagner**. Mr. Chairman, we are here to offer our support for the Corps of Engineers budget on dredging and maintenance of the lower Mississippi River. My name is David A. Wagner. I am the managing director of the Port of New Orleans. I have with me Jacques Michell, who is the president of Branch Pilots Association, and Channing Hayden, who is a vice president with New Orleans Steamship Association.

My statement has been formally put before you, and I ask you enter it into the record, and I will be very brief in my summary of points.

Senator **Burdick**. It will be received, without objection.

Mr. **Wagner**. We have come before you annually. In the past, I have expressed our support for the Corps' budget, and the Senate and Congress have been generous in continuing to supply funding for the development of navigation facilities in the lower Mississippi River.

I will not cite to you all of the statistics that are before you in the various charts and graphs that we submit for testimony annually, but I would like to make three basic points that I think emphasize the importance of these waterway projects to New Orleans, LA, and the United States.

That first statistic is that last year the Port of New Orleans handled 175 million tons of cargo, on a tonnage basis making it the No. 1 port in the United States for the movement of goods into and out of this country.

Second is that, as you know, over 90 percent of the international trade that is accomplished by this country is done via waterborne commerce, ships and barges, and the State of Louisiana is involved in over 18 percent of the international waterborne commerce that this country handles annually.

A third statistic that I think will be of a vital interest to you is that last year the United States exported 130 million tons of grain, and over 50 percent of that export grain was moved through ports of Louisiana on the lower Mississippi River between Baton Rouge and the Gulf of Mexico.

We are here today to offer our continuing support for the Corps' budget as presented to you and would request that your subcommittee and the Senate as a whole endorse those projects.

I thank you very much for your time.

Senator **Burdick**. Thank you.

[The statement follows:]

STATEMENT OF DAVID A. WAGNER

Summary of testimony of the Board of Commissioners of the Port of New Orleans by David A. Wagner, Managing Director, before the Senate Appropriations Subcommittee on Energy and Water Development on Thursday, March 29, 1990, in reference to the following projects:

1. MISSISSIPPI RIVER SHIP CHANNEL, GULF TO BATON ROUTE, LA
   We recommend that the Corps be funded to a minimum of $5,500,000 of construction funds for Fiscal Year 1991 to continue the project saltwater intrusion mitigation features of the first phase of the deepening project.

2. MISSISSIPPI RIVER, BATON ROUGE TO THE GULF, MAINTENANCE DREDGING
   We urge that Congress appropriate as a minimum $52,000,000 under O&M General. However, if greater capability exists, we urge that this amount be further increased to the extent that additional unscheduled bank stabilization be undertaken in Fiscal Year 1991.

3. MISSISSIPPI RIVER-GULF OUTLET (MR-GO), LA, MAINTENANCE DREDGING
   We recommend Congress to appropriate the full amount of $7,280,000 as contained in the Administration's Fiscal Year 1991 budget request.

4. MISSISSIPPI RIVER-GULF OUTLET, LA, NEW SHIP LOCK
   The $1,157,000 construction funds proposed for the New Ship Lock are essential to the completion of local reevaluation studies and continuation of general design studies.

5. MISSISSIPPI RIVER OUTLETS AT VENICE, LA
   We recommend approval of the proposed $2,040,000 for continued maintenance of these critical east-west navigational channels, Baptiste Collette and Grand and Tiger Pass.

6. GULF INTRACOASTAL WATERWAY, LOUISIANA & TEXAS SECTION
   We urge approval of preconstruction engineering and design funds in the amount of $200,000 for the deepening and widening project segment in Louisiana and Texas.

7. RED RIVER WATERWAY, MISSISSIPPI RIVER TO SHREVEPORT, LA
   The $39,147,000 in the budget request is essential for completion of work already underway on this project -- ultimately to result in stimulating economic growth along the Red River Basin and increase cargo movements through the Port of New Orleans. We strongly recommend approval of this budget proposal and encourage its increase to the Corps' full capability of $87,000,000.

I am David A. Wagner, Managing Director of the Port of New Orleans. I am here to testify on behalf of the Board of Commissioners of the Port of New Orleans - a unit of local government of Louisiana - and on behalf of neighboring Gulf States, the Mid-America States and the Nation as a whole.

The Mississippi River from the Gulf of Mexico to Mile 181 AHP has been a 45-foot deep channel for some time now. The District Engineer of the U.S. Army Corps of Engineers, New Orleans District recently released the Corps' cargo tonnage figures for the greater Port of New Orleans area for the year 1988. We were informed that the Port of New Orleans district recorded 175 million tons of cargo in 1988, a 4.2 percent increase over the previous year's 168 million tons - thus, the Port of New Orleans retained its position as the nation's leading seaport in terms of tonnage. The Corps has stated that the deepening of the Mississippi River certainly was a factor in

New Orleans improving its tonnage statistics. Thanks to Congress and the efforts of the New Orleans District, we feel that we now are in a more competitive position with the import/export bulk ports of the world. That position of strength in trade is essential to our nation's very well-being when one considers that foreign trade has been, and continues to this day, a sustaining force behind our country's growth. Ninety-one percent of our foreign merchandise trade by volume - and two-thirds of it by value - moves in ships. With 18.1 percent of the nation's foreign waterborne commerce passing through the ports of Louisiana, the State of Louisiana has had a profound influence on employment, plant construction and access to worldwide markets.

We believe our Louisiana ports have a distinct advantage in access to foreign markets at competitive transportation costs. In order to handle the waterborne commerce, hundreds of barge lines serve our nation's inland waterways. In the lower Mississippi River region, over 100,000 barges pass through the Port of New Orleans annually, handling the waterborne commerce of the area. To carry the cargo between New Orleans and its trading partners throughout the world - serving, for example, more than 150 countries - approximately 3,500 vessels, operated by more than 100 steamship lines, call at the port in a year's time. These trading partners and percentages of trade are Europe (26.1 percent), Latin America (22.3 percent), Asia (39.1 percent) and Africa (10.6 percent).

It is undeniable that the New Orleans area plays a vital role in the international commerce of this nation. In 1988, the lower Mississippi River (Baton Rouge to the Gulf of Mexico) handled 144 million tons of foreign waterborne commerce. Worth $24.4 billion, this cargo represented nearly 16 percent of the nation's international waterborne trade. Bulk cargo accounted for 94 percent of this volume, primarily the result of tremendous grain and animal feed exports and petroleum imports. More specifically, over 2.3 billion bushels of grain coming from 17 states and representing 50.2 percent of all U.S. grain exports entered the world market via the ten grain elevators and midstream transfer capabilities on the lower Mississippi River. This same port complex received 33 million short tons of petroleum in 1988, approximately 10 percent of the U.S. waterborne imports of petroleum products.

Also in 1988, public and private facilities under the jurisdiction of the Board of Commissioners of the Port of New Orleans handled 44.5 million tons of foreign cargo worth $11 billion (included in lower Mississippi River statistics). Of this amount, general cargo tonnage totalled 6.9 million tons (major commodities: iron and steel products, rice, paper products, coffee and crude rubber). Although the volume of bulk cargo statistically dwarfs the amount of general cargo handled, the significance of the port in the movement of general cargo should not be overlooked. The Port of New Orleans consistently ranks in the top seven general cargo ports in he country. Furthermore, per ton, general cargo is very valuable to the community as it produces a greater local economic benefit than does bulk cargo.

While the port's foreign market is worldwide, its domestic market is primarily mid-America, the heartland of the United States. This heartland region currently produces 60 percent of the nation's agricultural products, 1/2 of all of its manufactured goods, and 90 percent of the country's machinery and transportation equipment. Waterborne commerce from this region is projected to reach 800 million tons by the year 2000.

Essential to our national economy is the continued growth and development of the lower Mississippi River regional complex. Most major trading nations of the world have deep draft ports and are in the process of developing more. With the passage of the Water

Resources Development Act of 1986, United States ports are on the way to becoming more competitive in the world marketplace.

By the end of December 1988, the Corps had completed the initial construction dredging of the 45-foot channel from the Gulf of Mexico to Mile 181 AHP, thereby capturing the majority of estimated benefits attributed to the deeper channel. In fact, nine of the ten active grain elevators and four floating grain elevators that serve the vast mid-American, agricultural hinterland are reasonably assured of a minimum safe channel depth of 45-feet. Remaining yet for total first phase completion of the project are the project mitigation features for which the Administration has proposed $5,500,000. We urge that the Corps be funded this amount in the Fiscal Year 1991 Construction, General, Appropriation. This is the 1991 portion of approximately $15 million in payments to Plaquemines Parish, Louisiana to construct a pipeline and pumping stations for delivering potable fresh water to communities affected by saltwater intrusion. If Plaquemines Parish signs the agreement in 1990 as expected, this will relieve the Corps from the responsibility for barging fresh water to the parish every year.

In 1988, the Port of Baton Rouge handled 78.8 million tons to retain its position as the fifth largest port in the nation. Both New Orleans and Baton Rouge port complexes are entirely dependent upon timely and adequate dredging of the Southwest Pass to provide access to the Gulf. Judging from past experiences with spring thaws bringing higher river stages and higher rates of siltation, we urge Congress to appropriate as a minimum $52,000,000 under O&M General for maintenance of the 45-foot project channel which provides deep draft access to the Port of New Orleans. Of this sum, approximately $23.3 million would be used for dredging. The remainder is designated for repairs to jetties, foreshore dikes, and channel training pile dikes, marsh creation and bank nourishment. We would also recommend that consideration be given for the Corps of Engineers to be funded to go forward in Fiscal Year 1991 with the second phase of the deepening of the Mississippi River to Baton Rouge (Mile 181 to Mile 232.4).

We are equally concerned with maintaining adequate depths and channel widths in the Mississippi River-Gulf Outlet Channel. In 1988, the waterborne commerce handled on the MR-GO generated an estimated 5,300 jobs with wages in excess of $100 million and approximately $343 million in revenues, both direct and indirect, throughout the State of Louisiana. We recommend the appropriation of $7.28 million by Congress for maintenance of the Mississippi River-Gulf Outlet as shown in the Fiscal Year 1991 budget request. Approximately $6.5 million is for dredging. We would also recommend that the Corps continue to study the project for erosion control on this channel. We further recommend that the Congress consider providing added funding from the $12,480,000 in additional capability for this project in order to accomplish urgently needed jetty and foreshore dike repairs. This project also provides deep draft access to the Port of New Orleans. Incidentally, in 1988 the 4,506 vessels calling on the MR-GO Tidewater facilities accounted for 39 percent of the general cargo tonnage handled over public facilities at the Port of New Orleans.

The $1,157,000 construction funds proposed for the Mississippi River-Gulf Outlet, New Ship Lock Project are also essential at this time for the continuation of the economic feasibility reevaluation studies and continuation of general design studies.

The operation and maintenance features of the Mississippi River Outlets at Venice, Louisiana are fundamental in providing safe and essential offshore support access to energy-related industries. In addition to routine traffic, Baptiste Collette Bayou is occasionally used by shallow draft vessels as an alternate route between the MR-GO and the Mississippi River. We strongly recommend approval for the Administration's proposed $2,120,000 for the continued maintenance of these critical east-west navigation channels, Baptiste Collette and Grand and Tiger Pass.

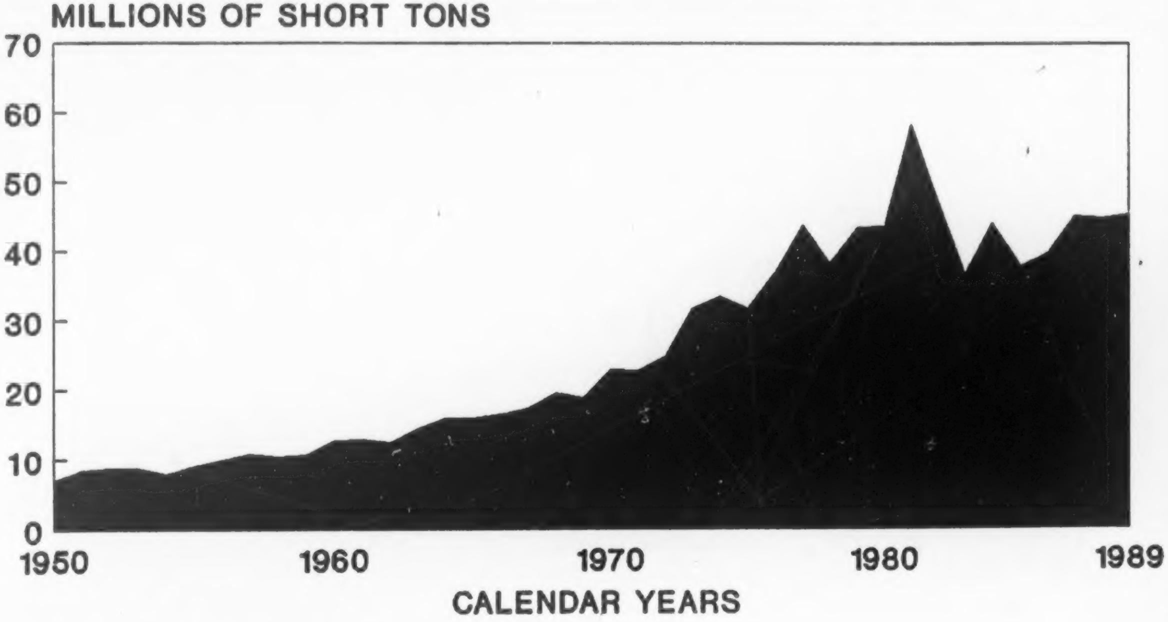
We also recommend approval of preconstruction engineering and design funds in the amount of $200,000 for deepening and widening that segment of the Gulf Intracoastal Waterway in Louisiana and Texas.

In closing, I would like to speak to one more project that deserves our attention; that is, the Red River Waterway, Mississippi River to Shreveport, Louisiana Project, providing for 236 miles of navigation improvements, 225 miles of channel stabilization works, and various recreational facilities. The $39,147,000 in the budget request is essential for continuing and completion of work already underway on this project - ultimately to result in stimulating economic growth along the basin of the Red River. We do believe, however, that Fiscal Year 1991 funding for this project should be increased to $87,000,000, the Corps' full capability to pursue this project.

Mr. Chairman, this concludes my statement and I thank you.

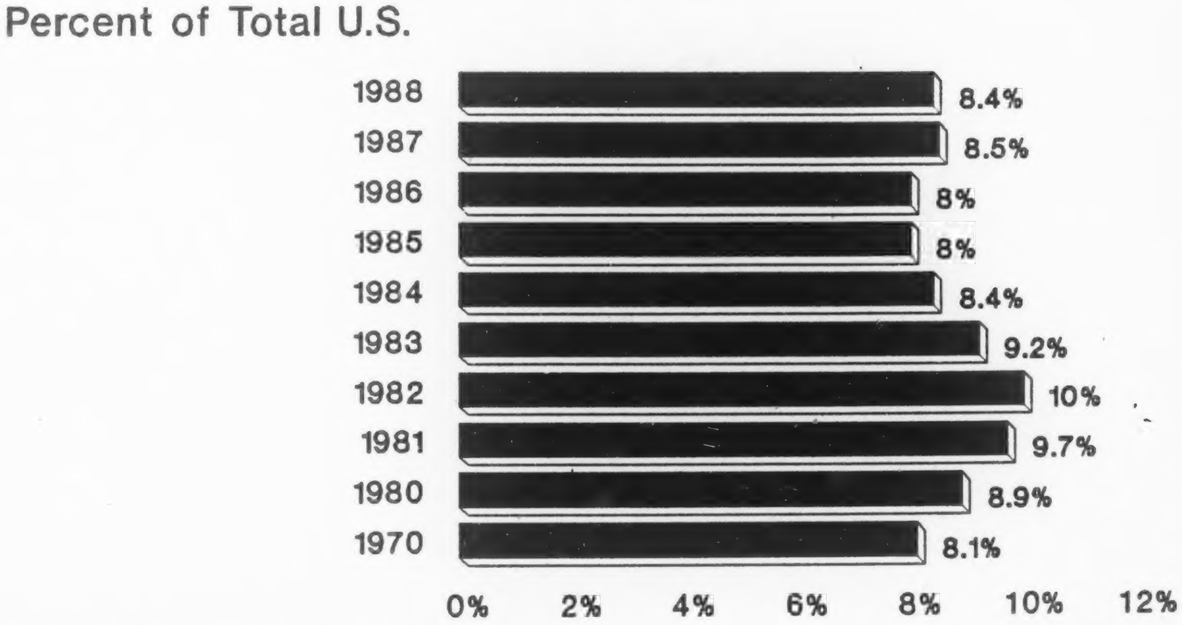
I will be followed by Mr. Channing Hayden, Vice President of the New Orleans Steamship Association, and Captain Jacques Michell, President of the Associated Branch Pilots.

PORT OF NEW ORLEANS
FOREIGN WATERBORNE COMMERCE*
CALENDAR YEARS 1950 - 1989**



* GENERAL AND BULK CARGO
** PROJECTED 1989 TONNAGE

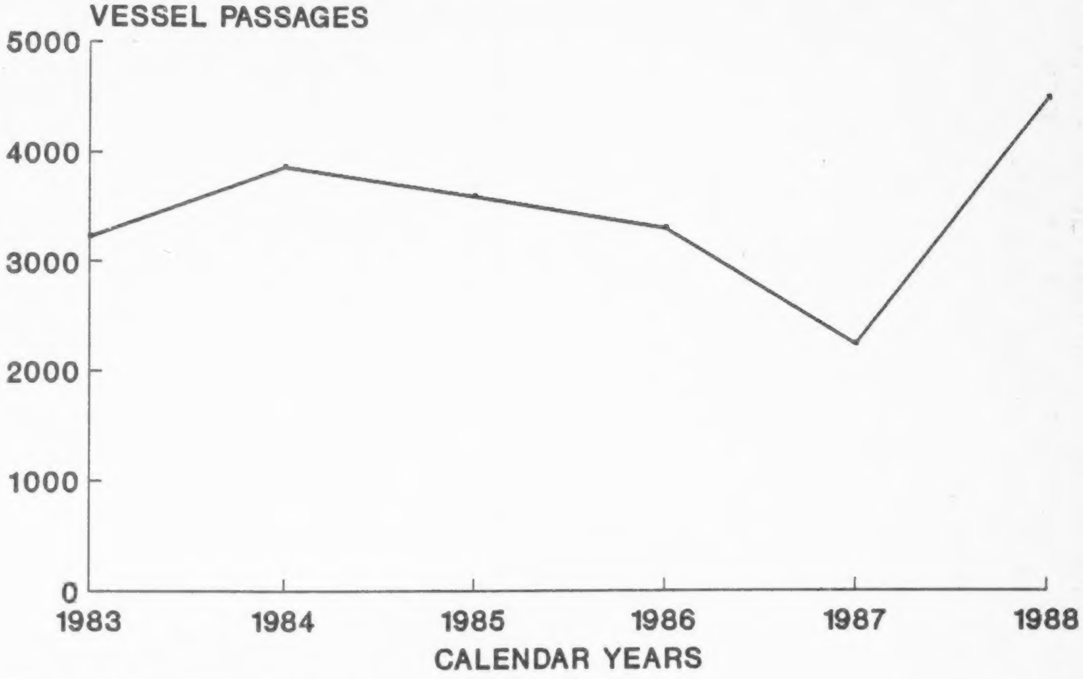
PORT OF NEW ORLEANS
TOTAL WATERBORNE COMMERCE*
CALENDAR YEARS 1970 - 1988



•Includes foreign and domestic movements

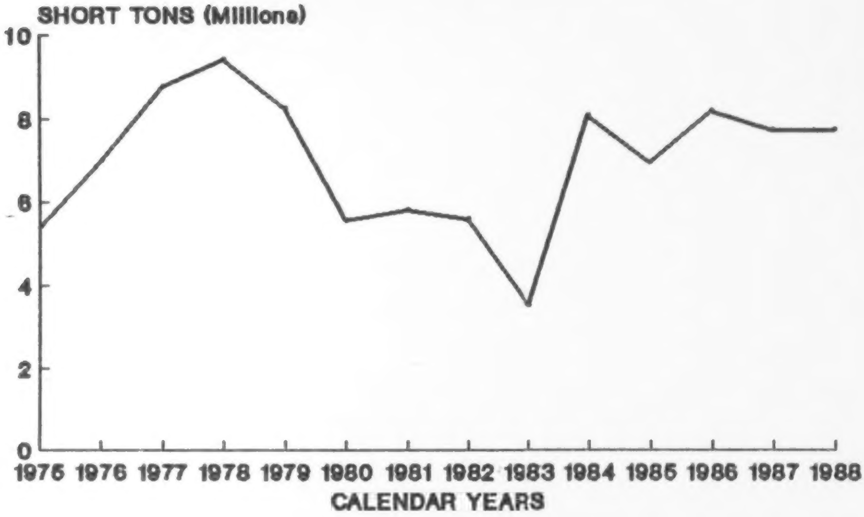
SOURCE: U.S. Army Corps of Engineers

PORT OF NEW ORLEANS VESSEL PASSAGES
MISSISSIPPI RIVER GULF OUTLET (MRGO)
CALENDAR YEARS 1983 - 1988

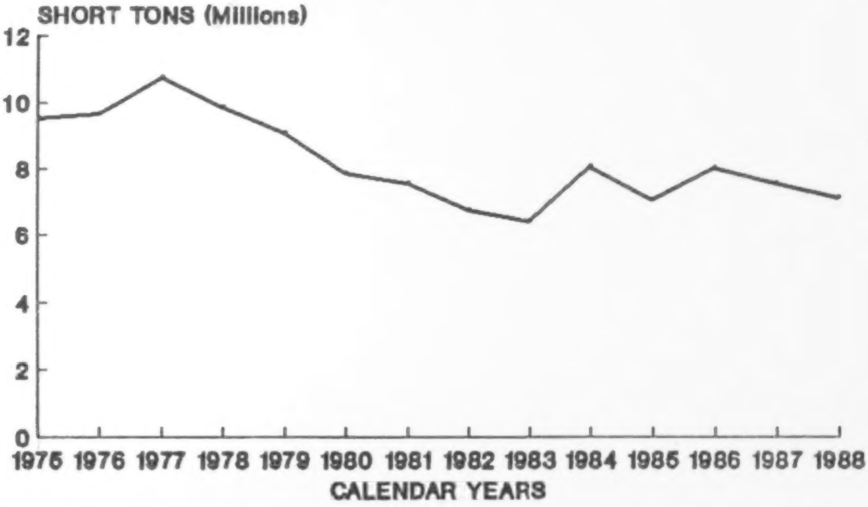


SOURCE: U.S. ARMY CORPS OF ENGINEERS

MISSISSIPPI RIVER GULF OUTLET
CALENDAR YEARS 1975 - 1988
TOTAL TONNAGE*

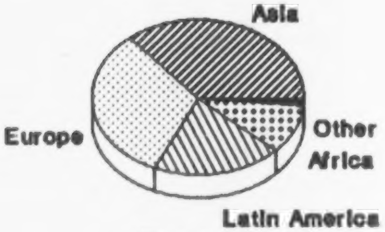


INNER HARBOR NAVIGATIONAL CANAL
CALENDAR YEAR 1975 - 1988
TOTAL TONNAGE*

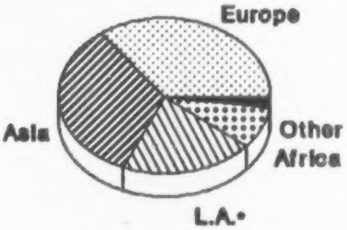


*Includes foreign & domestic cargo.
SOURCE: U.S. ARMY CORPS OF ENGINEERS

LOWER MISSISSIPPI RIVER
FOREIGN WATERBORNE COMMERCE
CALENDAR YEAR 1988



Tonnage
By World Area



Dollar Value
By World Area

* Latin America

Tonnage (000's of short tons)	
Principal Countries:	
Japan	21,438
Soviet Union	11,955
Netherlands	9,841
Mexico	7,144
Saudi Arabia	6,453
All Others	87,117
Total	143,948

Dollar Value (millions)	
Principal Countries:	
Japan	$ 3,291
Netherlands	1,846
Soviet Union	1,474
W. Germany	980
Venezuela	833
All Others	15,946
Total	$ 24,370

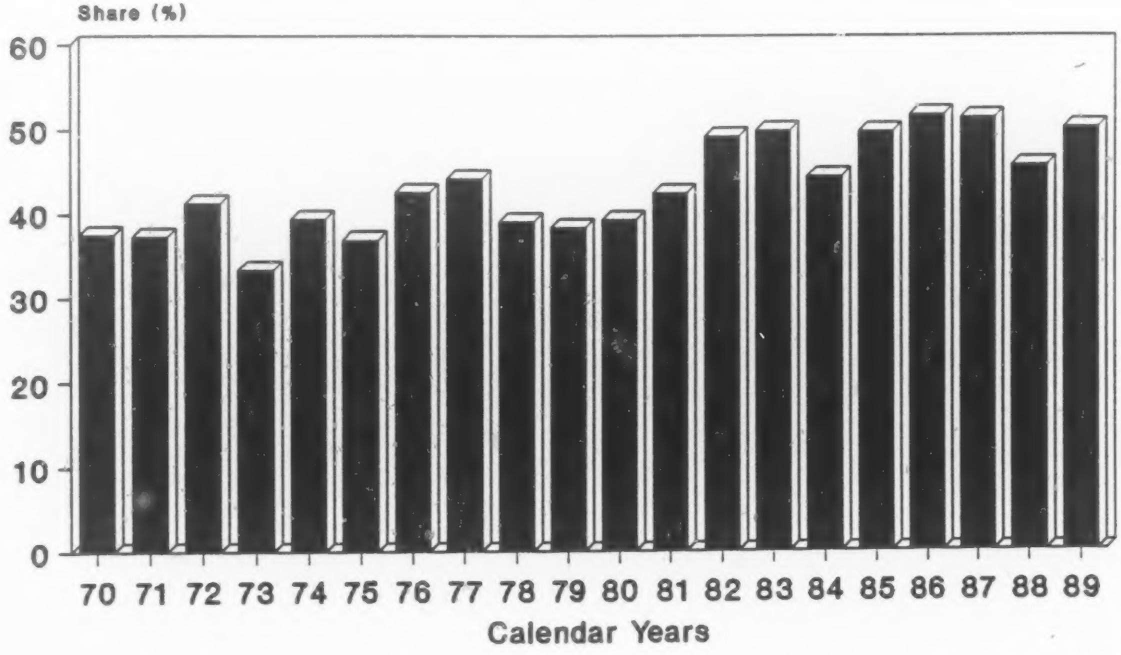
SOURCE: U.S. Dept. of Commerce

LOWER MISSISSIPPI RIVER
PRINCIPAL COMMODITIES 1988

Imports	48,153,830 Short Tons	Exports	95,793,612 Short Tons
Petroleum & Petroleum Products	28,279,165	Cereal & Cereal Prods.	44,964,495
Metalliferous Ores	6,686,466	Oilseeds & Oleaginous Fruit	15,492,582
Iron & Steel	3,777,852	Animal Feeds	13,908,272
Fertilizers	3,628,152	Coal, Coke & Briquettes	9,591,550
Nonmetallic Mineral Manuf.	1,085,508	Petroleum & Petroleum Products	4,754,015
All Others	4,696,687	All Others	7,082,698

SOURCE: Dept. of Commerce

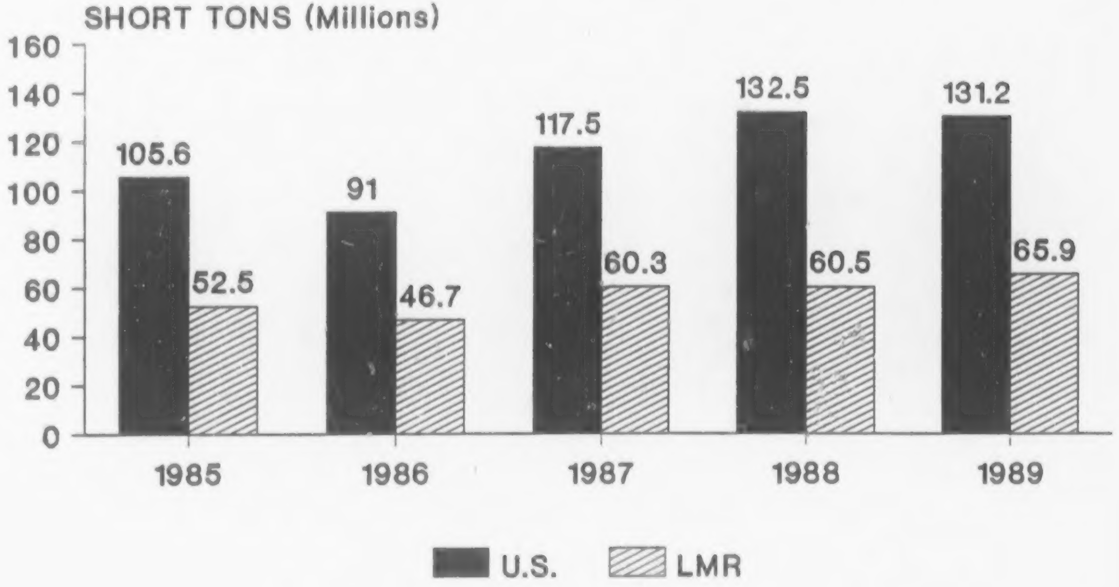
Lower Mississippi River Grain Exports
As a Percentage of the United States*
Calendar Years 1970 - 1989



* Market Share Based on Bushels

SOURCE: U.S. Department of Agriculture

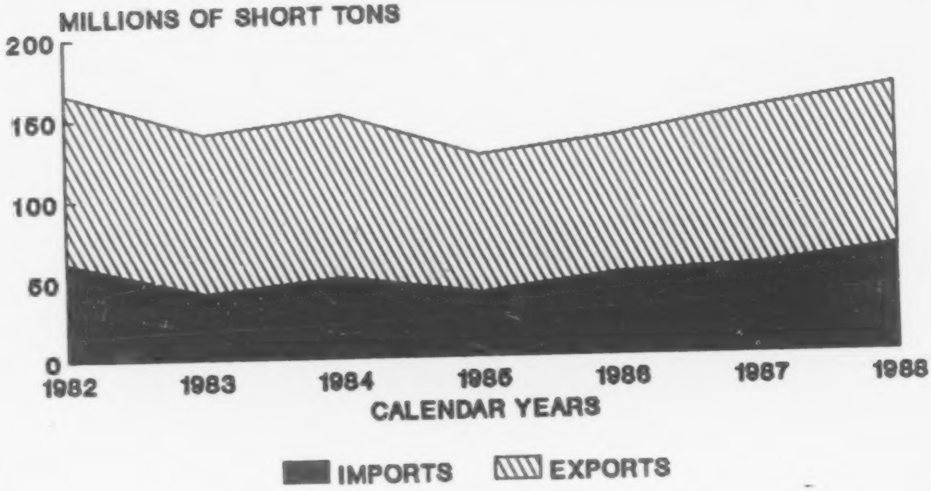
United States & Lower Mississippi River
Grain Exports
Calendar Years 1985 - 1989



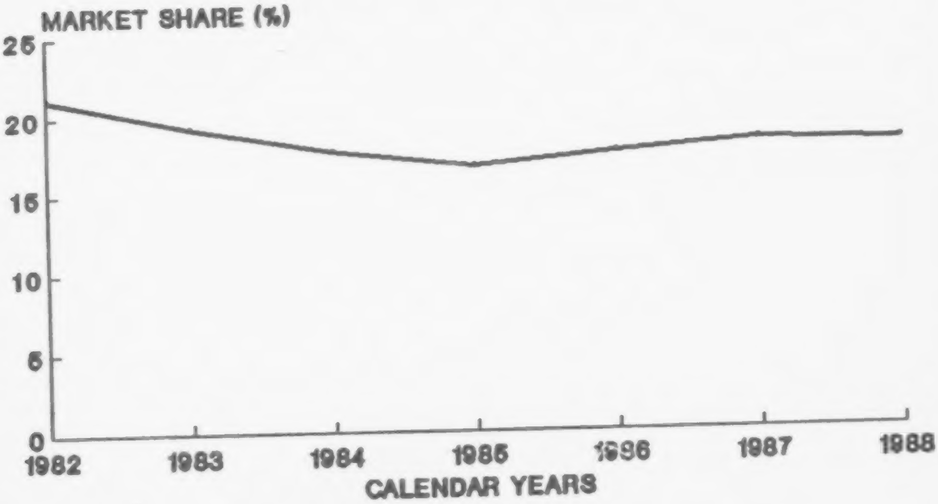
SOURCE: USDA (con. from bushels to tons)

NOTE: The LMR is the major geographical area for U.S. grain exports.

LOUISIANA PORTS
FOREIGN WATERBORNE COMMERCE
CALENDAR YEARS 1982 - 1988

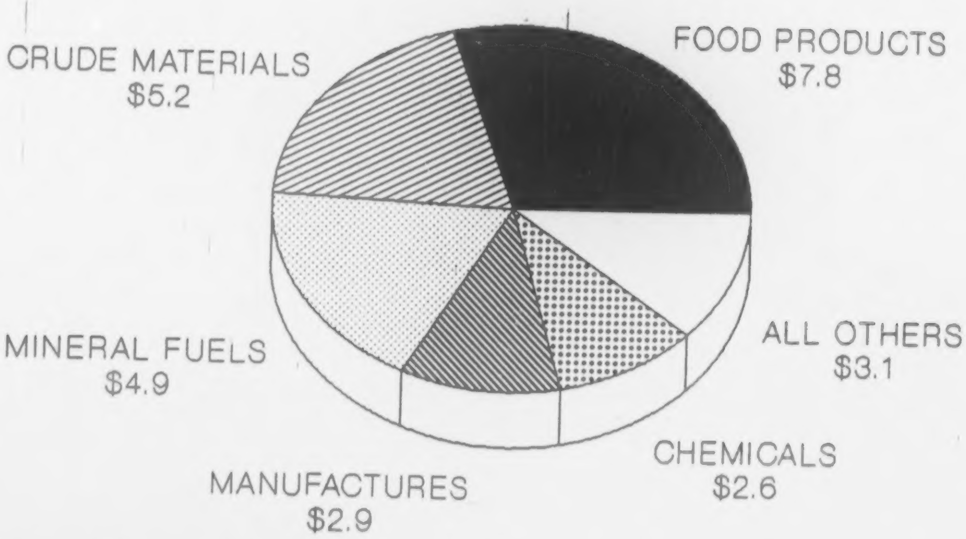


LOUISIANA PORTS
MARKET SHARE OF UNITED STATES
CALENDAR YEARS 1982 - 1988



SOURCE: U.S. DEPT. OF COMMERCE

LOUISIANA PORTS
FOREIGN WATERBORNE COMMERCE 1988*
COMMODITY PROFILE



*BILLIONS OF U.S. DOLLARS
SOURCE: U.S. DEPT. OF COMMERCE

SECTION TWO

BACKGROUND INFORMATION

STATISTICAL DATA

LOWER MISSISSIPPI RIVER

LENGTH:

2,350 miles from its starting point at Lake Itasca, Minnesota or 3,750 miles from the head waters of the Missouri River at Red Rock, Montana.

The Mississippi (including tributaries) is ranked as the third longest river in the world after the Nile which is 4,180 miles and the Amazon which is 3,912 miles long.

WATER SHED AREA:

1,244,000 square miles

The river drains 31 contiguous states in the United States and 2 provinces of Canada. This takes in 41% of the continuous land area of the United States.

AVERAGE DAILY FLOW:

460,000 cubic feet per second

This flow is equivalent to 297,000 million gallons per day.

AVERAGE VELOCITY:

3.1 miles per hour

SEDIMENT LOAD:

This load is equivalent to 138 million cubic yards per year. This yardage would fill the Louisiana Superdome in New Orleans 30 times or would cover a land area of 32 square miles to a height of 105 feet.

THE PORT OF NEW ORLEANS

In 1718, the explorer Bienville founded the City of New Orleans near the mouth of the Mississippi River - 14,500 miles of navigable waterways which link more than twenty states to the markets of the world. Today, 272 years later, the U. S. Army Corps of Engineers reports that the Port of New Orleans handled 175-million tons of waterborne commerce (1988 foreign and domestic data).

It is undeniable that the New Orleans area plays a vital role in the international commerce of this nation. In 1988, the lower Mississippi River (Baton Rouge to the Gulf of Mexico) handled 143.9-million tons of foreign waterborne commerce. Worth $24.3 billion, this cargo represented 15.9% of the nation's international waterborne trade. Bulk cargo accounted for 94% of this volume, primarily the result of tremendous grain and animal feed exports and petroleum imports. More specifically, over 2.4 billion bushels of grain or 50.2% of all U. S. grain exports entered the world market via the eleven grain elevators and midstream transfer facilities on the lower Mississippi River. This same geographical area received 33 million tons of petroleum products in 1988, 10% of the U.S. waterborne imports of this commodity.

In addition to being vital to the international commerce of the nation, foreign trade through the Port of New Orleans has a direct impact on the local economy. A recently published study reports the (1) more than 50% of the $10 billion worth of goods and services produced annually in the area are in some way dependent on oceangoing commerce; (2) over 67,000 jobs or 1/5 of the jobs in the area can be traced to port activity; and (3) 1/4 of the wages paid in the area can be linked to port activity.

In 1988, the Port of New Orleans handled approximately 44.5 million tons of foreign cargo worth $11 billion (included in the lower Mississippi River statistics). Of this amount, general cargo tonnage totalled 6.9 million tons (major commodities included: iron and steel products, paper and paper products, refined sugar, pulp and waste paper, coffee, machinery and transportation equipment, and aluminum and aluminum alloys). Although the volume of bulk cargo statisticaly dwarfs the amount of general cargo handled, the significance of the port in the movement of general cargo should not be overlooked. The Port of New Orleans is one of the top seven general cargo ports in the nation. Furthermore, per ton, general cargo is very valuable to the community as it produces a greater economic benefit than does bulk cargo.

In order to handle the waterborne commerce of this area, more than 800 barge lines serve the inland waterways and 100,000 barges pass through the port annually (an estimated 50% of all general cargo is moved to and from the port by barge, 30% by rail and 20% by truck). To carry the cargo between New Orleans and its trading partners throughout the world (150 countries), approximately 3,500 vessels operated by more than 100 steamship lines call at the port in a year's time (major world areas: Asia 39.1%, Europe 26.1%, Latin America 22.3%, and Africa 10.6%).

While the Port's foreign market is worldwide, its domestic market is primarily Mid-America, the heartland of the United States. This region currently produces 60% of the nation's agricultural products, 50% of all its manufactured goods, and 90% of the country's machinery and transportation equipment. By the year 2000, waterborne commerce from this region is expected to double. To accommodate this and other areas of growth, the Port of New Orleans launched a $400 million, 30-year capital improvement program in 1970 (valued in 1970 dollars). Thus far, the Port has spent $150-million and has initiated further planning for a $187-million facility improvement program to be accomplished over the next five years. These funds will be expended in the two major areas of the Port - (1) the Mississippi River, which has 12 miles of wharves stretching along the waterfront, and (2) the Tidewater area which is served by the Mississippi River-Gulf Outlet (MRGO). (Almost 39% of the Port's tonnage over public general cargo wharves is handled by the facilities on the MRGO.)

In summary, the Port of New Orleans is a dynamic, growing port. In the 272 years since Bienville founded the City of New Orleans, the Port has experienced dramatic changes. One thing, however, has remained constant. The Port of New Orleans has always played and will continue to play a vital role in the local economy and in the international commerce of the United States.

STATEMENT OF JACQUES B. MICHELL, PRESIDENT, ASSOCIATED BRANCH PILOTS FOR THE PORT OF NEW ORLEANS

Mr. MICHELL. Mr. Chairman, my name is Jacques Michell. I am president of the Associated Branch Pilots. We are the bar pilots for the Port of New Orleans.

We are here today to join with the Board of Commissioners of the Port of New Orleans and the New Orleans Steamship Association in support of the funding for the Corps of Engineers for the construction and maintenance of projects on the lower Mississippi River.

I would like to report to you today, Mr. Chairman, that past funding for construction and maintenance on the Mississippi River has proven to be successful. The Corps has deepened the depth of the Mississippi River in the lower end in which the Ports of New Orleans and Baton Rouge operate to a depth of 45 feet.

The pilots have made sure that the expenditure by the Congress and the construction by the Corps has been maximized. We have been handling ships through that area with drafts up to 48 feet, which are actually in excess of the project dimensions, but it is just a utilization of that project by applying the skills of pilotage to maximize the benefits of the project.

I would like to report to you today that the figures reflect a return on the investment that the Congress and the Corps has made in that area. The number of ships calling in the Mississippi River ports in 1989 has increased 3.7 percent. The size of the ships calling has increased also, and the drafts of the ships utilizing that area has increased, which indicates that we are getting more ships of larger size that are able to load greater amounts of cargo.

The effect is felt not only in Louisiana but in all the states with river ports in the Mississippi River Valley. The Corps' projects benefit not just Louisiana but all the States that export or import cargoes through the Mississippi River system.

We are very pleased to be here to support the Corps' funding and hope that this subcommittee will see fit to continue that level of funding that the Corps has requested.

I would also like to bring to the attention of the subcommittee a situation of safety on the Mississippi River which does, in a way, relate to this subcommittee, in that the projects that have been constructed and are being maintained are utilized properly.

In order to do so, a particular radio frequency has been set aside on the Mississippi River exclusively to be used for navigation purposes between vessels. That frequency does require surveillance and enforcement by the Federal Communications Commission to be sure that that channel is properly used.

The FCC has submitted a budget for the next fiscal year, and we would ask that anyone in Congress who has any way of influencing the passage of that budget or the funding of that budget do so. It is vital to the Federal Communications Commission to have the manpower and equipment necessary to monitor that channel and make sure it is used efficiently and to enforce its proper usage. It is essential to safe navigation on that project, and anything that can be done to continue that funding, we would support and appreciate that support.

Mr. Chairman, thank you very much for the opportunity to appear.

[The statement follows:]

STATEMENT OF JACQUES MICHELL

I am Jacques Michell, President of the Associated Branch Pilots, the Bar Pilots for the Port of New Orleans, Louisiana.

The Associated Branch Pilots is one of three pilot associations applying specialized piloting techniques to meet the demands of safe and efficient navigation in one of three distinct areas on the part of the Lower Mississippi River that lies between Baton Rouge, Louisiana and the Gulf of Mexico. We are called Bar Pilots because of the sand bars that constantly build and change in the area in which we pilot the large ocean going ships that call at the deep water ports on the Mississippi River. The area at the mouth of the river is the narrow, shallow entrance to the Mississippi River system known as Southwest Pass. It is the area in which we pilot the largest ships at the deepest drafts and in the greatest-numbers. We are also pilots for the Mississippi River Gulf Outlet which is a manmade channel seventy-five miles long, that begins in the Gulf of Mexico and intersects the intercoastal waterway system at New Orleans. In 1989 the Associated Branch Pilots performed pilotage on more than 12,000 occasions.

I would like to testify with the Board of Commissioners of the Port of New Orleans on projects that are of vital interest to safe navigation and maritime commerce on the lower Mississippi River.

The versatility of the lower Mississippi River system in accommodating road, rail, and the most cost effective mode of transportation, waterborne transportation, is vital to the local area, the states in the region of the Mississippi River valley, and the nation.

The United States Army Corps of Engineers has completed the first phase of the deepening of the channel in the lower Mississippi River from forty feet to a depth of forty-five feet from the Gulf of Mexico to a point just below Baton Rouge, Louisiana. This means that the largest port in the United States, whose ranking is determined by cargo tonnage handled, has enhanced access that will accommodate vessels with deeper drafts.

To the world shipping community this means that calling at ports on the Mississippi River will be more profitable as larger ships will be able to call at the ports, and ships that presently call will be able to take greater amounts of cargo per voyage.

The results have several related benefits. As the earning potential of ships increases freight rates decrease. The resulting savings are reflected in the cost of the product to the buyer. Since coal and agricultural products are shipped in such large quantities from the Mississippi valley, through the river system, the desirability of these products, from their sources within the United States, increases. The result to the U.S. producer is increased profits through increased amounts of product sold.

Increasing the demand for export of domestic commodities is a goal of every trading nation and certainly of increasing importance to the United States as our trade deficit grows. The projects identified by the Corps of Engineers enhance the goals of the United States with regard to trade.

Although the construction and maintenance of these projects lie within the State of Louisiana they impact the other states in the Mississippi River valley as the products that are shipped through the ports in Louisiana are products that have been produced in the states in the valley.

Louisianians are an integral part of this national effort. By providing efficient ports for the transshipment of cargos produced or consumed in the United States we serve the interests of our fellow citizens nationwide. Many of Louisiana's citizens are employed by the Corps of Engineers. The extra effort that accompanies their dedication and professionalism can be seen in the planning, design, construction, and maintenance of the projects that have been completed.

That extra effort can also be seen in the performance of pilotage by the members of the Associated Branch Pilots. The area of the Southwest Pass of the Mississippi River is the gateway through which 85% of the foreign commerce entering or leaving the river must pass. Ships whose summer deadweight tonnages are greater than one hundred thousand tons transit daily. The largest ship thus far was 284,000 summer deadweight tons. Although the ship did not call for cargo it indicates the capability of the channel and the people utilizing it.

Southwest Pass is a most important area in which the Bar Pilots are giving an extra effort. By applying their piloting skills Bar Pilots have over the years been able to make the fullest use of the channels constructed and maintained by the Corps of Engineers. In 1987, for instance, ships earned excess revenues that were conservatively determined to be more than $15 million. The pilots efforts have been recognized by an award presented by the World Trade Center in New Orleans. The excess revenue earned was attributed to the skill and professionalism of the pilots who piloted ships at the deepest drafts possible thus enabling ships to carry more cargo. The $15 million figure only encompassed additional freight rate earnings at drafts greater than forty feet, cargo value and ancillary services were not included. This could not have been accomplished without a like effort from the Corps of Engineers by providing reliable maintenance of the channel. Acknowledgement of the Corps efforts will not go unattended.

Over the years the Corps of Engineers has studied, designed, and improved the channels leading to the facilities at the ports along the Mississippi River by constructing training works, pile dikes, bulkheads and bank nourishment projects. As they continue to develop and improve those channels their design makes them self-maintaining.

Despite the Corps' efforts, conditions periodically occur that require individualized attention. Unpredictable and above average snowfall and rainfall can result in increased amounts of siltation in the channel in Southwest Pass. By proper management and prioritization, the Corps has been able to effect timely restoration of the authorized channel dimensions. Full Corps capability in this area should continue to be funded in order to insure the Corps' ability to continue to respond effectively.

The dollars sought can be justified in many ways. The extra effort in seeing to it that the greatest possible return is gained is something we in Louisiana call lagniappe. Lagniappe is that little extra you get from Louisiana people who know their jobs and do them well.

Funding of the Corps' initiatives in the Lower Mississippi River is money that has been proven to be well spent and money that will return. I urge your support of the funding for the U. S. Army Corps of Engineer's capability.

Mr. Chairman, before I close I would like to call to the attention of the Subcommittee the work of the Federal Communications Commission with respect to safe navigation, not only on the Mississippi River but throughout the nation's waterways.

The FCC provides the survailance and enforcement that is necessary to insure that the radio channels that are an essential part of a communications system that is vital to safe navigation on the nations waterways is properly and efficiently utilized.

The communications system to which I am referring was established by the Congress in the Vessel Bridge-to-Bridge Radiotelephone Act. This Act, passed by Congress in 1972 provides a radio channel, exclusively for use by vessels, to exchange information that is essential when navigating in the increasingly congested waterways of the United States. Second only to the Rules of the Road, which is the law by which vessels are navigated, it is the system by which the safety of our nation's waterways is most enhanced. The success of the system has been acclaimed by all who utilize it and is a credit to the wisdom of the Congress in providing it.

In order to insure that the equipment and manpower necesssary for the FCC to accomplish this most important task is provided we urge the Congress to provide the funding needed.

Mr. Chairman, this concludes my statement. Thank you for the oportunity to appear the Subcommittee. I will be happy to respond to any questions the Subcommittee may wish to ask.

STATEMENT OF CHANNING HAYDEN, VICE PRESIDENT, NEW ORLEANS STEAMSHIP ASSOCIATION

SUMMARY

1. Forty-Five Foot Channel for Lower Mississippi River.
We recommend that the Corps be appropriated the proposed $5.5 million as a minimum for the mitigation features of the salt water intrusion in the first phase of this deepening project. We also recommend that funding be available to initiate the second phase of this project which is 45 feet to the Port of Baton Rouge.

2. Channel Stabilization and Maintenance Dredging of Southwest Pass and Maintenance Dredging of the Mississippi River from Baton Rouge to the Gulf.
The Lower Mississippi River ports, from the Gulf to Baton Rouge, rank as a leading World Port area. The President's budget for FY 91 is $52 million for Operation and Maintenance, General, Mississippi River, Baton Rouge to the Gulf and Southwest Pass. We urge the approval of the $52 million and that this fund be increased $6,160,000 if a greater capability exists.

3. The Mississippi River-Gulf Outlet Maintenance Dredging.
Located on this waterway are the Port of New Orleans' Bulk Handling Plant, most of the Port's container facilities, the ro-ro terminal and additional facilities under construction which provide newer cargo handling methods to accommodate the larger ships now serving international trade. It is recommended that the full $7.28 million be appropriated for Mississippi River-Gulf Outlet, Operation and Maintenance, General and to combat the erosion problem. We encourage the availability of added funds should a greater Corps capability exist.

4. The Mississippi River-Gulf Outlet, New Ship Lock.
The planning and design for the urgently needed New Ship Lock continues. This lock, once in operation, will relieve existing hazardous congestion and costly delays to foreign commerce. It will promote the economic growth and development of water-oriented industries along the Mississippi River and the Mississippi River-Gulf Outlet, thus promoting the future growth of the Port area of New Orleans. It is urged that the Congress provide the $1,157,000 proposed for the continuance of this new lock.

5. The Red River Waterway, Mississippi River to Shreveport, Louisiana.
We urge funding to its full capability of $126,147.00 which is necessary for the continuation of the project. It will improve the economic situation of Louisiana, along the Red River Basin, and benefit the port of Shreveport and the ports on the Lower Mississippi River. The benefit comes from providing a direct water link between Shreveport, a major distribution center serving Louisiana, Texas, Oklahoma, and Arkansas, and the ports of Plaquemines, New Orleans, South Louisiana and Baton Rouge.

My name is Channing Hayden. I am Vice President of the New Orleans Steamship Association. Our membership of some 63 steamship owners, operators, agents and stevedores on the Lower Mississippi River is associated with hundreds of shipowners in international commerce.

My testimony concerns projects essential to the future of international commerce on the Lower Mississippi River from Baton Rouge to the Gulf. These projects, listed below, impact the nation in jobs and our ability to compete in world markets. They should be funded as noted in our summary.

1. Continuation of salt water intrusion mitigation features for the new Forty-Five Foot Channel for Lower Mississippi River as well as to initiate the second phase when necessary to extend the project into Baton Rouge.

2. Channel stabilization and maintenance dredging of Southwest Pass. Maintenance dredging of the Mississippi River from Baton Rouge to the Gulf.

3. Maintenance dredging of the Mississippi River-Gulf Outlet.

4. Continuation of the Design Program of the Mississippi River-Gulf Outlet New Ship Lock.

5. The continuation of the Red River Waterway Project (Mississippi River to Shreveport, Louisiana).

Channel stabilization along with maintenance dredging of Southwest Pass is vital in keeping project draft. Project draft, in turn, ensures that the Mississippi River's deep water ports will continue to handle the country's foreign waterborne commerce in the most cost effective way possible.

For years we have urged this committee to provide funds to maintain project draft at Southwest Pass. You have responded and the resulting benefits have proven the wisdom of your action not only for our area but the entire hinterland served by the Mississippi River System. History shows that Southwest Pass throughout the '70s was greatly restricted. From 1970 to 1975 the channel was restricted 46% of the time. In 1973 and 1974 the channel was below the 40-foot project draft 70% of the time. These restrictions were more than just one or two feet. There were periods when we were limited to drafts of 33 and 31 feet. Fortunately, those times have not recurred. This can be credited to a combination of factors--your help, the constant vigilance of the Pilots, the Corps, and the maritime community, along with work for the new 45-foot project. During the 1980s we operated at or above the project draft more often than not. The funding you have provided was money well spent because it provided an improved channel. It has allowed a quick recovery to project dimensions in some cases when the channel did deteriorate. The repairs to the jetties and dikes and the Corps' ability to quickly respond to shoaling have been instrumental in this fact. This is not to say that shoaling did not cause some problems. In fact, last year while appearing before this Committee we reported serious shoaling and groundings, lasting from February to May, costing our industry some $28 million, plus an indefinable loss in confidence of draft stability which is essential, particularly to the bulk trade handled by Louisiana's river ports from Baton Rouge to the Gulf. An important factor to consider with Louisiana's bulk trade is that much of it is export grain/agriculture and coal. These commodities are not captive cargoes. They may be lost as exports from the U.S. because they can be handled by other exporting countries.

We must continue the funding to maintain what has been achieved. The Pilots have taken advantage of tidal flows and other factors, which include the past years' construction work, to recommend the maximum draft possible consistent with navigational safety. This is reflected in the Pilots' draft recommendation which gradually increased to 46 feet for vessels under 100,000 DWT and 45 feet for vessels over 100,000 DWT until impacted by last year's shoaling problem. After the problem we again gradually increased to 47 and 48 feet, a 7 to 8 feet benefit over the old 40-foot project draft. One foot (12 inches) to a large vessel with a loading capacity of 250 tons per inch is an additional 3,000 tons of cargo. At a freight rate of $15 per ton, this is $45,000 for each foot, or a $360,000 increase in revenue for 8 feet of added draft. This is what keeps the Lower Mississippi River ports competitive.

We are again experiencing shoaling. Since March 21 the draft at Southwest Pass has been 44 or 45 feet, depending on the size of the ship. While the restrictions have not been as severe as last year, they will reduce cargo capacity for some larger vessels. No figures are being compiled on the current problem because hopefully the situation will not be prolonged.

The funds we are requesting for maintenance dredging and other works are essential for the Corps of Engineers to maintain a reliable channel and allow them to quickly respond to potential problems. This will restore the necessary confidence the bulk trade needs to operate. The deeper the channel the more important is channel stabilization. By ensuring adequate channel stabilization work the maintenance cost of the deeper channel is minimized. If recurring maintenance dredging can be minimized by investing in this work, then the investment is cost effective. The quicker the new 45-foot project is maintained with completed stabilization, the quicker and greater the benefits will be realized from O&M cost.

Funds are also needed to have dustpan dredges available to dredge the crossings above the city of New Orleans. These crossings control the draft to 8 of the 10 area major grain elevators. This area is predominantly bulk trade which must also have stable channel depth that coincides with the depth at Southwest Pass. Only 2 dredges in the country can maintain these crossings. At least one more is needed to reliably maintain the current channel. A second dustpan dredge will be needed when the 45 ft. channel is extended to Baton Rouge.

This is why we have requested $5.5 million for the mitigation features of the new 45-foot project as well as the $52 million plus the additional funds of $6,160,000 for maintenance dredging of Southwest Pass, Mississippi River, Baton Rouge to the Gulf.

The continuation of the second phase of the 45-foot deep channel into the Port of Baton Rouge is also a matter very important to Louisiana and its River Ports. It would eliminate the need for different loading criteria for the Louisiana ports on the Lower Mississippi River. The draft would be more uniform and avoid confusion to foreign shippers and ocean carriers. This should provide a better posture for the promotion of more trade through Louisiana. Because of the importance of this matter the state of Louisiana, even with its budget crunch, is still seeking funding to complete the Local Cost Sharing Agreement with the Corps of Engineers for this second phase. For these reasons we recommend that funding be available when needed to initiate this phase of the project to avoid delays when the State's cost share is available.

The growth of the Port of New Orleans depends, in large measure, on the Port's container and ro-ro facilities, and the Bulk Handling Plant, among others, located on the Mississippi River-Gulf Outlet. In the late '70s we averaged some 1,260 vessel transits annually. In the '80s we averaged 1,563 annually, a 24% increase.

This channel has been severely restricted in depth and in width. The funds you have provided have allowed the Corps to improve the channel considerably. Despite the Corps' best efforts, the channel width is still limited primarily because of erosion. This seaway has a project depth of 36 feet. Still for safety reasons on the narrow channel, restrictions apply to vessels with a draft of 30 feet or more. Such vessels cannot meet or pass in certain areas of this channel causing delays to the tightly scheduled container vessels using the Mississippi River-Gulf Outlet. The specialty vessels serving the Port's facilities are becoming larger. This channel, with less than stable full project dimensions, will cause problems for these larger vessels, reducing our ability to grow with the trade. Despite the problems with the channel, we have had in the last half of the '80s a 5% growth in vessel transits over the first half of the '80s.

To improve safety on this channel, we request that the Congress appropriate $7.28 million, along with added funds should a greater Corps capability exist for the Mississippi River-Gulf Outlet. In addition, to further reduce or eliminate transit restrictions and delays, an anchorage should be dredged and maintained as a holding area so large ships can transit without closing the channel to other vessel traffic. There is also the need to resolve the bank erosion problem in this channel. This could reduce cost over the long haul and enhance safety.

The container terminals and the Public Bulk Terminal are located on the Mississippi River-Gulf Outlet. Grain, other bulk facilities, and the general cargo wharves are located on the Mississippi River. An adequate route between the Mississippi River-Gulf Outlet and the river is essential for efficient transit between these facilities. The shortest route is an inefficient, antiquated lock built in the 1920's with a width of 75 feet and limited to a depth of 30 feet. Its maximum capacity has long been exceeded. The average waiting time for passage through the lock has increased from 8-1/2 hours in 1985 to about 12 hours at present; however, I am personally aware of waiting time of more than a day in some instances.

A much larger ship lock is necessary to accommodate the size of today's large vessels. We urge that Congress provide the requested $1,157,000 for this project. This is important if this project is to be completed. Any delays are unthinkable since the new lock is long overdue.

The Red River Waterway, Mississippi River to Shreveport, Louisiana, Project is directly related to our Port. The continuation and completion of this work will stimulate the economy all along the Red River Basin with jobs and additional international trade. This stimulated trade will service the Port of Shreveport and the ports on the Lower Mississippi River, providing needed growth and benefitting the states of Louisiana, Texas, Oklahoma, and Arkansas, which are served through the Shreveport distribution center. We urge that the budget of $39,147,000 necessary for this project be appropriated as well as an additional $87 million to meet the Corps' full capability.

I appreciate the opportunity to appear before you today. Thank you.

Senator **Burdick**. Thank you.

Senator Johnston had hoped to be here today, but as you probably know, he is in Louisiana for the funeral of his mother.

Now, the Port of New Orleans and the lower Mississippi River handle quite a level of trade, do they not?

Mr. **Michell**. Yes, sir.

Senator **Burdick**. I just want to make sure that it is in good working order, and I am sure that thousands of bushels of my wheat get down through that area, do they not?

Mr. **Michell**. Yes, sir.

Mr. **Wagner**. About 66 million tons a year.

Senator **Burdick**. That is pretty good. Thank you very much.

TEXAS WATER RESOURCE DEVELOPMENT PROJECTS

STATEMENT OF HON. JACK BROOKS, U.S. CONGRESSMAN FROM TEXAS

Senator **Burdick**. The next will be the Texas group, with Jack Brooks, I believe is next. Is he here? I might tell this group that I know this fellow very well.

How many years ago was it?

Mr. **Brooks**. Well, I have been here about 38 years. I served with your daddy. I served with your daddy, Usher Burdick. He wore a rope sometimes for a belt. He was a tough old coot, you know.

Senator **Burdick**. He was tough, wasn't he?

Mr. **Brooks**. He was tough as a coot. He was Republican and voted with me all the time. [Laughter.]

I loved him. He wasn't a Republican. What was the name of the party that they had out there in North Dakota?

Senator **Burdick**. The Nonpartisan League, you mean?

Mr. **Brooks**. Yes; the Nonpartisan League. That is what he was, but he sat with those Republicans. He didn't vote with them very often, and he would give them hell often and tear them up. You should have heard him.

Senator **Burdick**. I heard him.

Mr. **Brooks**. He was fun, wasn't he?

Senator **Burdick**. Yes; he was.

Mr. **Brooks**. Well, you have followed in those footsteps of independence and ability, Senator. I am honored to be here.

Senator **Burdick**. Proceed Congressman.

Mr. **Brooks**. Thank you, sir. We won't take a lot of time.

I appreciate the opportunity to be here, Senator, and urge the subcommittee's favorable consideration of the public works projects for the Ninth Congressional District included in the fiscal year 1991 budget.

I support funding for those items included in the budget. In the interest of time, we will submit a list of them with my statement rather than discuss each one individually. I am pleased to advise, with the exception of two, the authorized projects are appropriately funded in the President's budget.

The Taylor's Bayou flood control and drainage project and our Clear Creek flood control project are both funded to the Corps of Engineers' capability levels, for which I and the local sponsors are deeply grateful.

The Sabine Neches Waterway is in the budget for $6,282,000 for operation and maintenance, and the Corps has got a capability of $9,372,000 to repair our jetties on both sides there at the entrance. It really needs that, and the Corps has said they can do it, and I would request the subcommittee's serious consideration of that full funding.

WALLISVILLE LAKE, TX

I appreciate your successful efforts, along with the House, in appropriating $4 million for fiscal year 1990 for the Wallisville saltwater barrier project, but also in passing some language which directed that the funds be spent for construction on the project. It is my understanding that a contract should be let sometime this summer.

Although there are no funds in the President's budget, the Corps has a capability of $9.2 million to continue the Wallisville project. Mr. Chairman, I recognize that you are limited by your 302(b) allocation, and my request that you appropriate the Corps' full capability is made with the understanding that you are operating under that cap.

But I want to emphasize the importance of completing this project as soon as possible. Although the Corps has expressed that capability, I am not confident we might run into the same problem with the OMB that we faced before, so I am going to again be requesting bill language that directs the OMB to release any funds appropriated by the Congress for Wallisville and not just sit on it like they would kind of like to do.

I appreciate your consideration of my request, and our local project sponsors have been appearing before you for years and they are grateful to you. You all have been gracious in helping us. It is through your support that the Ninth District has been able to progress and provide the type of atmosphere that is conducive to attracting new industry, which we need in the worst way.

Without your help, this committee's help, my district, with its many ports and heavy industry, would not now be enjoying protection from the ever-present threat of flooding. We had a 2-inch rain last night in Port Arthur in a few hours, and it did not do any damage because we have got a seawall around that city to protect it from those 2-inch to 10-inch rains that we have suffered in just a short period of time.

INTRODUCTION OF SUPPORTING WITNESSES

Your assistance this year will be deeply appreciated by all the local officials here today and by all the residents of the Ninth District. As previously mentioned, with me are a number of people vitally concerned with these projects, and they are here to support these statements and to answer any questions.

If you would permit, I would like to just introduce them. From the city of Friendswood, Mayor Paul Schrader and his wife, Claire; Councilwoman Jan Jordan and Nicole Jordan. She is our youngest witness.

Nicole, stand up. Tell them hello. She is a great witness. Great statement, too; expert.

From the city of League City, we have Mayor Joe Lamb and Mrs. Lamb; Mayor Pro Tem, Ed Poole and Mrs. Poole; and City Administrator Paul Nutting; City Engineer Jess Hegemier.

From the County of Harris, we have Flood Control Director Jim Green. From the County of Jefferson, we have Judge LeBlanc and his wife Cheryl; and the distinguished naval commissioner, Ed Moore.

From the Port of Beaumont, we have Bill Kimbrough, the president of the board of commissioners; and Ben Goldstein, the general manager from Port Author Port; and Raymond Johnson, the vice president of the board of commissioners.

From the Clear Creek Drainage District, we have Chairman Steve Haskew and David McCullogh, board member. This is their first trip to Washington. I want them to stand up. I want you all to meet Senator Burdick. He is a great man.

From the Galveston County Drainage District, we have Commissioner Ed Ross; from the Jefferson County Drainage District 6, we have President Sam Smith and his wife Dorothy Smith; Vice President/Secretary Robert Horn and Barbara; Commissioner Josh Allen and his new bride, Deanna Allen; Kim Carroll and Norman Blackman.

From Jefferson County Drainage District 7, we have Manager Tom Hogan, Commissioner Duffy Adair, Julian Coghill, Joe Lyday and Mary, and Amidee Morgan.

SUPPORTING STATEMENTS FOR THE RECORD

I would also like, Senator, if I could submit for consideration of the committee statements in support of these projects from the cities of Friendswood, Groves, Nederland, Port Arthur; Jefferson and Galveston Counties; Beaumont, Galveston and Port Arthur Ports; Clear Creek Drainage District, Drainage Districts 3, 6, and 7, from Jefferson County, from the Jefferson County Navigation District, from the Port Arthur Chamber of Commerce, from Guy K. Jackson and from the Trinity River Authority.

We are grateful to be here. We appreciate your help. If you have got any questions, we will try and help with them. Other than that, we will thank you and count on your gracious help and support.

Senator **Burdick**. Without objection, the documents will be received and included in the record.

You didn't tell these good people that I was over in the House with you for a while.

Mr. **Brooks**. Well, that is true. We served in the House and got along fine. [Laughter.]

Sometimes when they go to the Senate, they get difficult, but Burdick has not changed a bit. He has been hard to deal with all the time. [Laughter.]

Senator **Burdick**. You have not changed a bit; thank you.

Mr. **Brooks**. All right.

Any questions on any of this?

Senator **Burdick**. No; it is fine. I think you made a good case.

Mr. **Brooks**. Thank you, Senator.

[The statements follow:]

STATEMENT OF CONGRESSMAN JACK BROOKS

MR. CHAIRMAN, THANK YOU FOR THIS OPPORTUNITY TO APPEAR TODAY TO URGE THE SUBCOMMITTEE'S FAVORABLE CONSIDERATION OF THE PUBLIC WORKS PROJECTS FOR THE NINTH CONGRESSIONAL DISTRICT OF TEXAS INCLUDED IN THE FISCAL YEAR 1991 BUDGET.

MR. CHAIRMAN, I SUPPORT FUNDING THOSE ITEMS INCLUDED IN THE BUDGET PROPOSAL AND IN THE INTEREST OF TIME WILL SUBMIT A LIST OF THEM WITH MY STATEMENT RATHER THAN DISCUSS EACH ONE INDIVIDUALLY.

I'M PLEASED TO ADVISE THAT, WITH THE EXCEPTION OF TWO, ALL OF THE AUTHORIZED PROJECTS IN MY DISTRICT ARE APPROPRIATELY FUNDED IN THE BUDGET. THE TAYLOR'S BAYOU FLOOD CONTROL AND DRAINAGE PROJECT AND OUR CLEAR CREEK FLOOD CONTROL PROJECT ARE BOTH FUNDED TO THE CORPS OF ENGINEERS' CAPABILITY LEVELS, FOR WHICH I AND THEIR LOCAL SPONSORS ARE DEEPLY GRATEFUL.

THE SABINE NECHES WATERWAY IS IN THE BUDGET FOR $6,282,000 FOR OPERATION AND MAINTENANCE. THE CORPS HAS EXPRESSED A CAPABILITY OF $9,372,000, WITH THE ADDITIONAL FUNDS TO BE SPENT ON REPAIRING THE JETTIES. I WOULD REQUEST THE SUBCOMMITTEE'S SERIOUS CONSIDERATION OF FULL FUNDING FOR THIS IMPORTANT WORK.

MR. CHAIRMAN, I AM DEEPLY GRATEFUL TO YOU AND YOUR SUBCOMMITTEE MEMBERS FOR YOUR SUCCESSFUL EFFORTS IN NOT ONLY APPROPRIATING $4 MILLION FOR FY 1990 FOR THE WALLISVILLE SALTWATER BARRIER PROJECT, BUT IN ALSO PASSING LANGUAGE DIRECTING THAT THE FUNDS BE SPENT FOR CONSTRUCTION ON THE PROJECT. IT IS MY UNDERSTANDING THAT A CONTRACT SHOULD BE LET SOMETIME THIS SUMMER.

ALTHOUGH THERE ARE NO FUNDS IN THE PRESIDENT'S BUDGET, THE CORPS HAS EXPRESSED A CAPABILITY OF $9.2 MILLION WHICH WOULD ENABLE THEM TO CONTINUE THE WALLISVILLE PROJECT. MR. CHAIRMAN, I RECOGNIZE THAT YOU ARE LIMITED BY YOUR 302(b) ALLOCATION AND MY REQUEST THAT YOU APPROPRIATE THE CORPS' FULL CAPABILITY IS MADE WITH THE UNDERSTANDING THAT YOU ARE UNDER THAT CAP. HOWEVER, I WISH TO EMPHASIZE THE IMPORTANCE OF COMPLETING THIS PROJECT AS SOON AS POSSIBLE. ALTHOUGH THE CORPS HAS EXPRESSED A CAPABILITY, I AM NOT CONFIDENT THAT WE WON'T RUN INTO THE SAME PROBLEM WITH OMB THAT WE'VE FACED BEFORE, THEREFORE, I ALSO WILL AGAIN BE REQUESTING BILL LANGUAGE THAT DIRECTS OMB TO RELEASE ANY FUNDS APPROPRIATED BY CONGRESS FOR WALLISVILLE.

MR. CHAIRMAN, I APPRECIATE YOUR KIND CONSIDERATION OF THIS REQUEST. AS YOU KNOW, I AND THE LOCAL PROJECT SPONSORS HAVE BEEN APPEARING BEFORE YOU ASKING FOR YOUR SUPPORT FOR THESE IMPORTANT PROJECTS FOR MANY YEARS. YOU AND YOUR SUBCOMMITTEE MEMBERS HAVE ALWAYS BEEN MOST GRACIOUS IN HELPING US. IT IS THROUGH YOUR SUPPORT THAT THE NINTH CONGRESSIONAL DISTRICT HAS BEEN ABLE TO PROGRESS AND PROVIDE THE TYPE OF ATMOSPHERE THAT IS CONDUCIVE TO ATTRACTING NEW INDUSTRY. WITHOUT YOUR HELP, MY DISTRICT, WITH ITS MANY PORTS AND HEAVY INDUSTRY, COULD NOT NOW BE ENJOYING PROTECTION FROM THE EVER-PRESENT THREAT OF FLOODING AND ITS TRAGIC EFFECTS. YOUR ASSISTANCE AGAIN THIS YEAR WILL BE MOST DEEPLY APPRECIATED BY THE LOCAL OFFICIALS HERE TODAY AS WELL AS BY ALL OF THE RESIDENTS OF THE NINTH CONGRESSIONAL DISTRICT.

MR. CHAIRMAN, AS PREVIOUSLY MENTIONED, I HAVE WITH ME TODAY A NUMBER OF PERSONS VITALLY CONCERNED WITH THESE PROJECTS. THEY ARE HERE TO SUPPORT THESE STATEMENTS AND TO ANSWER ANY QUESTIONS THE SUBCOMMITTEE MAY HAVE. I WOULD LIKE TO INTRODUCE THEM AT THIS TIME...

CITY OF FRIENDSWOOD

MAYOR PAUL SCHRADER

COUNCILWOMAN JAN JORDAN

CITY OF LEAGUE CITY

MAYOR JOE LAMB AND MRS. LAMB

MAYOR PRO TEM ED POOLE AND MRS. POOLE

CITY ADMINISTRATOR PAUL NUTTING

CITY ENGINEER JESS HEGEMIER

COUNTY OF CHAMBERS

JUDGE OSCAR NELSON

COUNTY OF HARRIS

FLOOD CONTROL DIRECTOR JIM GREEN

ALICIA KLECKLEY

COUNTY OF JEFFERSON

JUDGE RICHARD P. LeBLANC AND MRS. CHERYL LeBLANC

COMMISSIONER ED MOORE

PORT OF BEAUMONT

BILL KIMBROUGH, PRESIDENT BOARD OF COMMISSIONERS

PORT OF PORT ARTHUR

BEN GOLDSTEIN, GENERAL MANAGER/PORT DIRECTOR

RAYMOND C. JOHNSON, VICE PRESIDENT BOARD OF COMMISSIONERS

CLEAR CREEK DRAINAGE DISTRICT

CHAIRMAN STEVE HASKEW

DAVID McCULLOGH, BOARD MEMBER

GALVESTON COUNTY DRAINAGE DISTRICT #2

COMMISSIONER ED ROSS

JEFFERSON COUNTY DRAINAGE DISTRICT #6

PRESIDENT SAM O. SMITH AND MRS. DOROTHY SMITH

VICE PRESIDENT/SECRETARY ROBERT C. HORN AND MRS. BARBARA HORN

COMMISSIONER JOSH ALLEN AND MRS. DEANNA ALLEN

GENERAL MANAGER RONNIE E. PLATT

KIM CARROLL

NORMAN BLACKMAN

JEFFERSON COUNTY DRAINAGE DISTRICT #7

CHAIRMAN EUGENE RASHETA

MANAGER TOM HOGAN

COMMISSIONER M. J. "DUFFY" ADAIR

COMMISSIONER JULIAN COGHILL AND MRS. COGHILL

COMMISSIONER JOE LYDAY AND MRS. MARY LYDAY

COMMISSIONER AMIDEE MORGAN

I ALSO SUBMIT FOR THE CONSIDERATION OF THE SUBCOMMITTEE STATEMENTS IN SUPPORT OF THESE PROJECTS FROM THE FOLLOWING:

CITIES OF:

- FRIENDSWOOD
- GROVES
- NEDERLAND
- PORT ARTHUR

COUNTIES OF:

- GALVESTON
- JEFFERSON

PORTS OF:

- BEAUMONT
- GALVESTON
- PORT ARTHUR

CLEAR CREEK DRAINAGE DISTRICT

JEFFERSON COUNTY DRAINAGE DISTRICT NOS. 3, 6, AND 7

JEFFERSON COUNTY NAVIGATION DISTRICT

PORT ARTHUR CHAMBER OF COMMERCE

GUY JACKSON

TRINITY RIVER AUTHORITY

NINTH DISTRICT, TEXAS PROJECTS
FY 1991 FUNDING REQUESTS
(Amounts in $ Thousands)

Project or Study	President's FY 1991 Budget	Corps' Capability	JB's Request
CONSTRUCTION:			
Clear Creek	$ 3,700	$ 3,700	$ 3,700
Taylor's Bayou	4,700	4,700	4,700
Texas City & Vicinity Flood Control	848	848	848
Wallisville Saltwater Barrier	0	9,200	9,200
OPERATIONS AND MAINTENANCE:			
Galveston Harbor & Channel	41	41	41
Gulf Intracoastal Waterway	13,185	17,385	17,385
Houston Ship Cahnnel	6,697	6,697	6,697
Sabine-Neches Waterway	6,282	9,372	9,372
Trinity River and Tributaries	20	20	20
Wallisville Saltwater Barrier	402	402	402

STATEMENT OF CLEAR CREEK, TX, DRAINAGE DISTRICT

The Clear Creek Flood Control Project is an absolute necessity to the health, safety, and well-being of the poeple who live in the Clear Creek watershed. As the land in the watershed has undergone development, pastures and farmland have been converted to parking lots, streets, runways, buildings, and other surfaces from which rain water runs off extremely rapidly. Although there have been, and continue to be, improvements made to drainage arteries in the region by local agencies, consistent with their resources, and although storm water run-off and flood plain control has been in effect in the counties of the Clear Creek watershed since 1979-80, the effects of land development and subsidence have already reached the point that Clear Creek simply cannot carry storm water away to Galveston Bay fast enough to keep water out of our homes. So, until Clear Creek is improved in its water handling capacity, we do not have the ability make substantial improvement to the flood hazards that our citizens are living with every day.

People here realize that it is not feasible to prevent flooding by a storm like Claudette which struck this area in July, 1979 and dropped 30-40 inches of rain on us in a two-day period. However, our people are getting water in their homes when much less spectacular rains occur -- five-year and ten-year frequency precipitation is causing flooding. Even those people who are not getting water in their homes are impacted: street flooding is so severe that emergency vehicles cannot get through. A fire or serious medical problem occurring during, or for many hours after, such rains, would go unanswered in many places.

The Corps of Engineers has devised a plan for improving Clear Creek that is economically sound (benefit to cost ratio of 2.6), environmentally acceptable, and will completely contain the watershed run off for a ten-year frequency storm. Furthermore, the 100-year flood plain will be reduced by 25% overall in the watershed. We fervently hope that appropriation of construction funds will again be approved and included in the FY-1991 Budget. The Project is not frivolous, nor a convenience type of improvement -- it deals with people's safety and health, both physical and psychological. Many of our people fear rain; anxiety levels run very high when a heavy rain lasts more than a couple of hours, especially when water starts to rise in the streets and into people's yards!

Gentlemen, we NEED the Clear Creek Project and respectfully request that the additional construction funding of $3.7 million be included in the FY-1991 Budget.

RESOLUTION NO. 90-2

A RESOLUTION ENDORSING U.S. ARMY CORPS OF ENGINEER'S CLEAR CREEK FLOOD CONTROL PROJECT, STATE OF TEXAS: AND URGING THE UNITED STATES CONGRESS TO CONTINUE CONSTRUCTION FUNDING OF THE PROJECT IN THE FY-91 BUDGET.

WHEREAS, the Clear Creek Watershed includes portions of Galveston County as well as parts of Harris County and Fort Bend County, and

WHEREAS, a serious flood problem exists in Clear Creek Watershed where existing residential and commerical areas are subject to extensive damages from rising waters in Clear Creek and its tributaries, and

WHEREAS, the taxpayers of the District made a serious committment in 1982 to the concept of self-help by voting an increase in taxes for flood control, and

WHEREAS, in spite of the increased taxes, the amount by which the flood hazard in the District can be reduced without a major project to increase the flow capacity of Clear Creek is severely limited, and

WHEREAS, the scope of the work required to achieve the necessary improvements on Clear Creek requires the extensive technical management resources that the Corps of Engineers can provide, and

WHEREAS, the cost of the improvements needed on Clear Creek far exceeds the financial capabilities of local entities, and

WHEREAS, the benefits of the Corps of Engineers Clear Creek Project would include substantial reductions in claims against the National Flood Insurance Program, and

WHEREAS, the residents in the District continue to experience economic loss as a result of unnecessarily frequent flooding, and

WHEREAS, the residents of the District continually suffer extreme mental anguish because of the frequent threat of flooding, as well as the flooding itself, and

WHEREAS, the Clear Creek Drainage District, within the limits of its resources, and with the cooperation of other local governmental agencies, as well as individual citizens who have donated their time and labor, has been clearing debris and executing structural improvement projects in the creeks to increase their capacity, and

WHEREAS, the U.S. Army Corps of Engineers has designed a cost effective flood control project as authorized by the United States Congress which will provide a significant measure of protection from recurring flooding problems in the Clear Creek Watershed, and

WHEREAS, Congress approved $8 million to start construction of the Clear Creek Flood Control Project in the federal budget for Fiscal Year 1987, $4.8 million for Fiscal Year 1988, $4.3 million for Fiscal Year 1989 and $6.1 million for Fiscal Year 1990, and

WHEREAS, delays will significantly increase the cost of the project as well as the probability of additional flooding, therefore,

BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF THE CLEAR CREEK DRAINAGE DISTRICT OF GALVESTON COUNTY:

THAT the District re-endorse the U.S. Army Corps of Engineers Clear Creek Flood Control Project, and

THAT the District urge the Congress of the United States to recognize that the Corps of Engineers Clear Creek Project is not a mere convenience item, but is absolutely necessary in order to restore the quality of life of thousands of people to a reasonable condition that they have every right to expect, and

THAT the District urge the Congress of the United States to approve the $3.7 million necessary to continue funding for construction of the project in the FY-91 budget, and

THAT the District urge the Congress to take whatever additional action is necessary to expedite the project and thereby reduce the emotional, physical, and economic suffering due to flooding.

PASSED, APPROVED, AND ADOPTED THIS 6TH DAY OF FEBRUARY, 1990.

STATEMENT OF JEFFERSON COUNTY, TX, NAVIGATION DISTRICT

Taylors Bayou

Jefferson County Navigation District is one of the sponsors of the Taylors Bayou Drainage and Flood Control Project. It is also responsible for the maintenance and operation of a newly constructed saltwater barrier and drainage gates, this unit also being a part of the Taylors Bayou Drainage and Flood Control Project. In addition to the foregoing, we maintain and operate existing navigation locks and drainage gates, also vital components of the drainage system for the Taylors Bayou watershed.

The Taylors Bayou Project is approximately 56% complete. Except for providing a bridge fender system, work on Phase I is complete. Considerable channel rectification work has been accomplished on Phase II and the realization of this drainage improvement project is much nearer to reality. Therefore, it is important that sufficient funds be provided to continue this urgently needed work before more costly damages are inflicted on the home owners and businesses of our community.

As one of the sponsoring agencies, Jefferson County Navigation District stands ready to meet its commitments to furnish its share of the local assurances required.

The District representing the people and industries of this district, and supported by our Congressman, the Honorable Jack Brooks, respectfully request that 4 million seven hundred thousand dollars be included in the F.Y. 1991 budget, in order that this highly important work can be continued.

Sabine-Neches Waterway

The Jefferson County Navigation District of Beaumont Texas is the local sponsor of the Sabine-Neches Waterway as authorized by Congress.

The Sabine-Neches Waterway is a federally maintained navigation project extending from the Gulf of Mexico, through a jettied entrance at the mouth of Sabine Pass, inland to the deepwater ports of Port Arthur, Beaumont, and Orange, Texas, a total distance of approximately 84 miles. The project includes deep draft channels of the following dimensions; 42 feet deep and 800 feet wide across the Sabine Bank in the Gulf of Mexico; 40 feet deep an a varying width of 800 feet to 500 feet through the jetty channel; a depth of 40 feet and a width of 500 feet from the jetty channel to the Turning Basins at Port Arthur; a 40 foot depth and a 400 foot width from Port Arthur via the Sabine-Neches Canal and the Neches River to the Port of Beaumont; a 30 foot depth and a 200 foot width from mouth of Neches River upstream thru the Sabine River to the Port of Orange.

In addition to the above dry cargo ports, Mobil Oil Corporation, Texaco, Chevron and American Petrofina Company of Texas have located their major refineries along this ship channel. These four refineries have a total rated processing capacity of approximately 1,000,000 barrels of crude oil per day. This is about 11% of the nation's refining capacity. A great majority of this crude oil is imported by tankers through this waterway and the ports and energy related industries along this channel have billions of dollars invested in pipe lines, tanks, wharves, docks and other plant installations.

A recent survey indicates that the principle industries of this area are engaged in a 97 million dollar expansion and modernization program, and other projects are on the drawing board.

In addition to providing crude oil to the local refineries, Sun Marine Terminals also furnishes others with considerable oil. The Department of Energy has invested in excess of 35 million dollars in Sunoco's Neches River facilities, not including the cost of a pipeline to the Hackberry Strategic Reserve Salt Dome oil storage terminal, nor does it include the development of the Big Hill Storage Terminal, the construction of which is nearly complete. The majority of this commodity is foreign imported crude oil and the handling requires the use of many large tankers which further overcrowds this already extensively used ship channel.

All of the foregoing development is largely due to the existence of the Sabine-Neches Waterway, our area's life line to the world for its exports and imports.

This extensive and expanding complex comprises a critical basic energy related industry that is absolutely vital to the nation's economic and energy and defense needs. Their diminution for any reason would have a deleterious effect nationally as well as regionally.

The U.S. Corps of Engineers reported that, in 1988 (the latest tonnage figures available), the Sabine-Neches Waterway Ports of Beaumont, Port Arthur, Sabine Pass and Orange handled more than 57,000,000 tons of dry and liquid cargoes. Shipping of this magnitude necessarily involves the use of a great many vessels which, of course, creates congestion on the waterway. To compound the problem, the present size of the oil tankers, grain vessels and cargo ships using this waterway are such that an even deeper and wider channel is needed at times, hence the importance of maintaining the waterway free of shoals.

Recent studies by the Corps of Engineers and complaints from the shipping industry reflect that there is continuous serious siltation and shoaling in the Gulf entrance channel at Sabine, and continuous extensive shoaling along several reaches of the inland channels. They find that these conditions will rapidly become worse, and, if not corrected, eventually the channel could be closed to deep sea navigation.

Correcting these conditions will decrease chances of collisions and groundings of the many vessels carrying crude oil and refined products. Such occurrences, as stated by the Corps of Engineers in their environmental impact report **"would result in adverse environmental impact and public health hazards"**. Failure to maintain the channel would result in severe adverse economic effects on the project area, the state and even the nation. Effects would include the loss of billions of dollars worth of facilities adjacent to the channel, loss of employment for thousands of people and disruption of the manufacture and transportation of a significant portion of the nation's **"fossil fuel supply"**.

According to the U.S. Corps of Engineers, the 6 million two hundred eighty-two thousand dollars included in the proposed budget for F.Y. 1991 will be utilized for dredging the Entrance Channels, the Port Arthur Turning Basins, and, the Sabine-Neches Canal.

As the sponsoring agency, Jefferson County Navigation District stands ready to provide all needed disposal land areas, rights-of way, relocations and confining structures for this project.

The District, representing the above mentioned many ports, refineries, grain elevators and other shippers using this Waterway, supported by our Congressman, the Honorable Jack Brooks, respectfully request your favorable consideration for the inclusion of 6 million two hundred eighty-two thousand dollars in the F.Y. 1991 budget, in order that this badly needed work may be accomplished.

STATEMENT OF PORT ARTHUR, TX

The City of Port Arthur will not be requesting funding for specific projects with the Energy and Water Subcommittees this year but we strongly support the continuing funding for the ongoing projects in this area. Please add our request and support for final completion of the Hurricane Protection System if any work remains to be done; the maintenance of the Federal waterway system, the intracoastal waterways, and the Taylor Bayou project.

We are requesting that you provide this letter of support to the Subcommittees and we appreciate your allowing us to participate in this hearing before the House Subcommittees.

STATEMENT OF JEFFERSON COUNTY, TX, DRAINAGE DISTRICT NO. 3

Works on the Taylor's Bayou Drainage and Flood Control Project has continued to progress for several years and during that period of time a great deal has been accomplished. The citizens and residents of this area are anxiously awaiting the day when we can say that the project has been completed.

Since work has commenced, the outfall channel for the project has been completed, the widening and deepening of the intercoastal water way has been completed and the salt water barrier and seven salt water intrusion gates have been installed. Phase I of the project is almost totally completed. Phase II of the project is well under way and the widening and deepening of Taylor's and Hillebrandt Bayous has commenced under Phase II of the project. It is of vital importance that Phase II of the project be continued and finished as soon as possible in order to tie in the overall project so that flooding of the homes, residential areas and vital farm land will no longer continue.

The Corps of Engineers has informed us that they are proceeding with Phase II and the $4.7 million allocated in the current proposed budget for the continued work on this project is of vital importance to the area.

Jefferson County Drainage District No. 3 is again requesting your support and assistance in having this amount included in the budget for the fiscal year 1990.

STATEMENT OF GUY C. JACKSON III, ANAHUAC, TX

I strongly support the proposed $402,000.00 of operation and maintenance funds for Wallisville Lake, Texas Project presently included in the FY 1991 Budget. This amount is adequate for this fiscal year for this purpose. I respectfully request that these funds be included in the FY 1991 budget.

In addition, because of the perilous economic situation in the lower reaches of the Trinity River, it is imperative, from my viewpoint, that additional funds be appropriated and instructions be given to the U. S. Corps of Engineers to start construction and complete the Wallisville Lake, Texas Project without delay.

Our agricultural industry is at a virtual standstill. Rice production has been struck such a blow that it's supporting infrastructure is on the verge of collapse. The irrigation systems, farm equipment, parts supply services, grain storage and drying facilities, aerial applicators and the other services that "make the rice farming go" are on the absolute edge of disaster.

The fall in world oil prices has dealt a very severe blow to our local petro-chemical industry which has been an economic mainstay of this area for over half a century. We in Chambers County are facing continued double digit reductions in our ad valorem tax values due to the impact of the lowered price of oil.

Without the Wallisville Lake, Texas Project in being and providing an assured source of not only agricultural irrigation water, but a source of municipal and industrial water for the future, the economic forecast for this area is extremely bleak well into the next century.

Frankly, this Project is the means by which the existing State Appropriated Water Rights to historic users in the lower reaches of the Trinity River are protected from the raids of the large municipalities in and alongside the Trinity River Basin.

Many years ago there was an extremely hard fought battle between the metropolitan areas at the upper and lower ends of the Trinity River and the lower river appropriators which resulted in the lower river appropriators being protected from the inroads of the metropolitan areas then, now and in the future. If Wallisville is not constructed, the counties on the lower end of the Trinity River will be helpless in the face of the onslaught of the political superpowers in this state. I cannot say it any other way, for that is the truth. If Wallisville is not built the trap door is sprung on the gallows and the lower river's economic head is in the noose.

I would respectfully request that you insert the following language in the FY 1991 Appropriations Bill:

> "Wallisville, Texas-The Secretary of the Army, through the Corps of Engineers, is directed to immediately initiate construction of the Wallisville Lake, Texas Project under terms DACW 64067-C-0108, signed in 1967 with the Trinity River Authority, the City of Houston, and the Chambers-Liberty Counties Navigation District."

I am convinced that the current recommended Plan adequately addresses the actual needs of all who have interest in or concerns for the Wallisville Project; and that the yet to be devised mode of operation of the Project is the actual core of concern to be dealt with amongst this group and can be dealt with at the proper time.

I was raised in a Texas, water-oriented family and I state categorically that "he who controls the water in Texas controls Texas' future for the next century". It is an absolute necessity that the lower reaches of the Trinity River, especially the East bank, have their own supply of water, agricultural, industrial and municipal if they are going to survive as a viable economic unit in the 21st century.

I beseech you to see that the Wallisville Lake, Texas Project is funded and constructed. Our community is depending upon this. Please do not condemn us to oblivion.

RESOLUTION OF FRIENDSWOOD, TX

RESOLUTION NO. R90-7

A RESOLUTION ENDORSING THE U.S. ARMY CORPS OF ENGINEERS CLEAR CREEK FLOOD CONTROL PROJECT; AND URGING THE UNITED STATES CONGRESS TO ACT FAVORABLY ON THE APPROPRIATION OF $3,700,000 CONTAINED IN THE FY1991 BUDGET.

* * * * * * * *

WHEREAS, a serious flood problem exists in the Clear Creek Watershed where existing residential and commercial areas are periodically subject to extensive damages from rising waters in the creek; and

WHEREAS, in the City of Friendswood in July 1979, 1600 out of 3000 homes were flooded with coincident economic losses exceeding $38,000,000; and

WHEREAS, in the City of Friendswood in September 1979, 500 of these homes were again flooded; and

WHEREAS, in the City of Friendswood in January 1980, 75 of these homes were again flooded; and

WHEREAS, in the City of Friendswood in August 1989 500 of these homes were again flooded; and

WHEREAS, the citizens continue to suffer economic loss and mental anquish as a result of flooding; and

WHEREAS, the citizens have been donating their time and labor in an effort to clear the creeks and banks of debris; and

WHEREAS, the local drainage authorities are actively improving the Clear Creek tributaries; and

WHEREAS, the United States Congress in 1939 authorized the U.S. Army Corps of Engineers to begin a study of Clear Creek; and

WHEREAS, the United States Congress in 1968 authorized the U.S. Army Corps of Engineers to design a flood control project which would provide a significant measure of protection from recurring flooding problems in the Clear Creek Watershed; and

WHEREAS, the study has been completed and a consensus has been achieved by all local sponsors and entities and endorsed by the 67th Texas Legislature;

WHEREAS, the project has been approved by the U.S. Army Corps District in Galveston and the Corps Southwest Division; and

WHEREAS, further delays will significantly increase the cost of the project as well as the probability of additional flooding;

WHEREAS, the local sponsors of the project have agreed to provide funding for the local costs of construction; and

WHEREAS, Congress has provided funding for the first phase of construction; and

WHEREAS, construction of the first phase of the project began in July 1989.

* * * * * * * *

NOW, THEREFORE, BE IT RESOLVED BY THE City Council of the City of Friendswood:

THAT the City re-endorse the U.S. Army Corps of Engineers Clear Creek Flood Control Project; and

THAT the City urge the congress of the United States to adopt the budget and appropriate construction funds so that the U.S. Army Corps of Engineers may continue the rectification work; and

THAT the City urge the Congress to take whatever additional action is necessary to expedite the project and thereby reduce the emotional, physical and economic suffering due to flooding;and

THAT the City Secretary forward official copies of this resolution to the President of the United States, to the Speaker of the House of Representives and President of the Senate of the United States Congress, and to all members of the Texas Delegation to the Congress, with the request that this resolution be officially entered into the Congressional Record.

PASSED, APPROVED AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, TEXAS THIS ~~THE~~ 12TH DAY, OF FEBRUARY, 1990.

STATEMENT OF RAY HOLBROOK, GALVESTON COUNTY, TX, JUDGE

Galveston County has been the local sponsor with the U.S. Corps of Engineers for the construction of various flood control projects in Galveston County since the first seawall was started in Galveston shortly after the 190 Hurricane. The Galveston Seawall has now been extended in length to approximately 10 miles protecting the most populated part of the City of Galveston.

TEXAS CITY HURRICANE-FLOOD PROTECTION LEVEE

In 1962 (some 14 years after the first local bond issue was passed), construction began on the seawall protecting the cities of Texas City and La Marque from the ravages of hurricanes and high tides of Galveston Bay. The Texas City Hurricane-Flood Protection Levee was completed in 1987. However, serious erosion has occurred along the toe of the Seawall Levee fronting on Galveston Bay, and corrective action is urgently needed. We appear before this Committee to request funds for the U.S. Corps of Engineers to assist Galveston County in correcting the problem.

The serious erosion problems that developed along the shoreline fronting on Galveston Bay are from approximately the Texas City Dike to State Highway 146, a distance of between five and six miles. In one particular area of approximately 2 miles, the shoreline has eroded over 200 feet into the seawall in the last 20 years and has violated the toe of the levee in several locations. With the approval of the Corps of Engineers, Galveston County has already completed a contract for a very short distance, about 1,000 feet, where we believe delay of any kind would adversely affect the seawall. The Corps now has an approved project to assist the County with the remaining approximately two miles of the project. The $848,000 in the Administration's Budget for Texas City and Vicinity Flood Control is for this erosion control to be completed, and we urge the Committee's approval of those funds to be used on this urgent corrective action. The Corps of Engineers has already approved a contract for this work, and the construction has just begun this calendar year, 1990.

CLEAR CREEK FLOOD CONTROL PROJECT

The final flood control project sponsored by Galveston County is along Clear Creek in the cities of League City and Friendswood in cooperation with the Harris County Flood Control District. Construction is now underway with an official groundbreaking having taken place in March, 1989. Galveston County, Harris County, and the U.S. Corps of Engineers signed the Clear Creek contract on June 30, 1986, on the Highway 146 bridge over Clear Creek on the boundary between Galveston and Harris counties. We appear before this Honorable Committee to urge your support for appropriations for construction on Clear Creek.

The Galveston County Commissioners Court respectfully urges the Honorable Committee to approve $3,700,000 in construction funds for the Clear Creek Flood Control Project. These funds are included in the Administration's Budget for FY 1991, and the U.S. Corps of Engineers has let the contract for the first phase of this project.

It is extremely important that the Clear Creek Flood Control Project continue in FY 1991 with the funds recommended by the Administration. After approximately 15 years of planning, the Corps of Engineers made final engineering decisions on this project in 1983 and completed detailed engineering design for the second outlet from Clear Lake to Galveston Bay and for the flood gate to control flow. The Design Memorandum has been approved for construction. This project is designed to provide flood relief for over 500,000 people in the Clear Creek watershed in Galveston and Harris counties. It was also designed in such a way as to protect the sensitive environment of

Clear Creek, and this decision received overwhelming public support in a January, 1982, public hearing. The two local sponsors, Galveston County and Harris County, support the Corps of Engineers design which will accommodate a 10-year flood with the remainder of the 100-year flood plain to be protected by flood plain management.

In 1979, over 2,000 homes in Friendswood and League City along Clear Creek were flooded twice--in July from Tropical Storm Claudette and again in September. Several thousand homes were also flooded in Brazoria and Harris counties. Losses from flooding in these three counties from the 1979 floods were well over $200,000,000. People are desperate to do something--almost anything--on Clear Creek, and the Corps of Engineers is trying to expedite this project. In August, 1989, Hurricane Chantel flooded over 500 homes along Clear Creek in Galveston and Harris counties, so the urgency of the project has been emphasized to us once again.

Inasmuch as the Clear Creek Flood Control Project has been in the study and design stage for 21 years (authorized in 1968), it is most urgent that the construction continue in FY 1991 and beyond. The study has been a high priority by the Corps of Engineers, and over $2,500,000 in planning and engineering has been spent. We sincerely hope you will approve $3,700,000 in construction funds for FY 1991 for construction of the project. Galveston County passed a $5,000,000 bond election in November, 1985, to provide its local share of the cost. Thus, we are ready, willing, and able to assume our local responsibility for this project. Right-of-way and disposal areas are being acquired by both Galveston and Harris counties now and will continue full speed as the construction proceeds.

Thank you for your consideration of these requests and for your time in allowing us to be present at these hearings. We stand ready to assist you in any way and to furnish any additional information you may require.

STATEMENT OF NEDERLAND, TX

This is to advise that the City of Nederland is situated in the Ninth Congressional District, Texas, and recommends your consideration of FY 1991 Budget appropriations for the following projects:

PROJECT	FY 1991 BUDGET
Clear Creek (Construction)	$ 3,700,000
Galveston Harbor & Channel (O&M)	41,000
Houston Ship Channel (O&M)	6,697,000
Houston-Galveston Navigation Channels (Precon. Engn. & Desgn.)	1,100,000
Sabine-Neches Waterway (O&M)	6,282,000
Taylors Bayou (Construction)	4,700,000
Texas City & Vicinity Flood Control (Construction)	848,000
Wallisville Lake (O&M)	402,000

Your consideration of these recommendations is appreciated.

STATEMENT OF JEFFERSON COUNTY, TX, DRAINAGE DISTRICT NO. 7

The Board of Commissioners of Jefferson County Drainage District No. 7 fully supports the proposed $4,700,000 provided in the budget for fiscal year 1991 for the continued construction of the Taylors Bayou Project.

The Taylor's Bayou Project will greatly benefit drainage to about sixty percent of Jefferson County. The prevention of flood damages to homes, businesses and agricultural properties is a critical necessity today and we strongly endorse the continued construction of this project.

We request the Committee's approval of the $4,700,000 proposed in the 1991 fiscal year budget.

STATEMENT OF GREATER PORT ARTHUR, TX, CHAMBER OF COMMERCE

Thank you for giving us the opportunity to submit comments about our area.

Much of the District that Congressman Jack Brooks represents is heavily involved in importing and exporting. Port Arthur is one of those cities that reaches right to the Gulf of Mexico and simultaneously is on the Intracoastal Waterway.

The lifeblood of Port Arthur, as well as our greatest hope for economic improvement, is the development and improvement of our navigable waters.

We would urge you to consider the continued funding of the following three projects as economically imperative to our area:-

a.) maintenance dredging of the shipping lanes from Sabine Pass to Port Arthur so we can always guarantee a full 40 feet of depth;

b.) constant maintenance and upkeep of the hurricane protection system surrounding Port Arthur; and

c.) funding for the Taylor's Bayou project so that flooding will be prevented and the encroachment of salt water will be eliminated.

We appreciate the solicitude and concern your Subcommittee has shown to our area in the past. We are confident that, with your continued care of the projects above, our area will gradually pull its way out of the high unemployment we now experience.

Thank you for your interest.

STATEMENT OF PORT OF GALVESTON, TX

The President's Fiscal Year 1991 Budget has two projects for which I wish to express the support of the Port of Galveston.

There is $41,000 included for Operation and Maintenance of the Galveston Harbor and Channel. The Port of Galveston is a major outlet for the Nation's Export Wheat. At its peak in 1984, 260 million bushels of wheat passed through the Port. Every consideration must be give to maintaining the capabilities of this Port.

There is $1,100,000 included for Preconstruction Engineering and Design for the Houston-Galveston Channels. This project, when completed, will provide a 50' Draft Capability for both Port's. There are economies of scale in using deeper draft ships that will reduce ocean transportation costs for both exports and imports. This will benefit exporters by making them more competitive in world markets and will reduce costs to the consumer of imports.

Your support of these appropriations will be appreciated.

STATEMENT OF JEFFERSON COUNTY, TX, DRAINAGE DISTRICT NO. 6

Over the past several years the Taylors Bayou Drainage and Flood Control Project has been moving ahead with the acquisition of channel rights of way, the purchase of spoil disposal areas, the coordination of mitigation with environmental agencies, and the widening and deepening of the main drainage channels. These efforts are to provide better drainage and flood relief as well as to enhance the navigability of these waterways.

Phase I became operational in the spring of 1987; and, since then, a reasonable degree of flood relief has been realized by residents and property owners in the area. Phase II is well underway; and with each section completed, additional benefits will be received.

This project would not be possible without federal assistance and the continuing efforts of our own Congressman Jack Brooks. The citizens of this area are indebted to the several Congressional committees that review appropriations each year and have seen fit to continue funding for the Taylors Bayou Project.

The funding level for fiscal year 1991 is $4.7 million. The District supports this request and urges you to approve it.

Additionally, the District also supports the funding request for the Sabine-Neches Waterway (O & M) for $6,282,000.

Your thoughtful consideration and approval of funding for these very important and beneficial projects is requested and appreciated.

RESOLUTION OF GROVES CITY, TX, COUNCIL

RESOLUTION NO. 90-03

WHEREAS, the Groves City Council supports the following public works projects which Congressman Jack Brooks will present before the House Committee on Appropriations and Senator Lloyd Bentsen will present before the Senate Committee on Appropriations for funding in the fiscal year 1991 Budget:

Clear Creek (construction)	$ 3,700,000
Galveston Harbor & Channel (operation & maintenance)	41,000
Houston Ship Channel (operation & maintenance)	6,697,000
Houston-Galveston Navigation Channels (precon. engineering & design)	1,100,000
Sabine-Neches Waterway (operation & maintnenace)	6,282,000
Taylors Bayou (construction)	4,700,000
Texas City & Vicinity Flood Control (construction)	848,000
Wallisville Lake (operation & maintenance)	402,000

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GROVES, TEXAS:

THAT this body does hereby go on record as wholeheartedly supporting the above projects for funding in the fiscal year 1991 Budget; and

BE IT FURTHER RESOLVED that a copy of this resolution be furnished Congressman Jack Brooks, Senator Lloyd Bentsen, and members of the House and Senate Committees on Appropriations as evidence of the support of the Groves City Council.

PASSED, APPROVED, and ADOPTED at a regular meeting of the City Council of the City of Groves this 5th day of March, 1990.

STATEMENT OF JEFFERSON COUNTY, TX, COMMISSIONERS COURT

The Commissioners' Court of Jefferson County, Texas would like to go on record in support of the following projects which pertain to Jefferson County and will be presented by Congressman Jack Brooks on March 29, 1990:

(1) Sabine-Neches Waterway (O&M)
(2) Taylors Bayou (Construction)

It is our opinion that said projects should be included in the 1991 budget as thesed projects are vital to our area and are in the best interest of the citizens of Jefferson County.

STATEMENT OF PORT ARTHUR, TX, PORT COMMISSION

We respectfully ask that you favorably consider the public works funds request, by our Congressman Jack B. Brooks, for the Operations and Maintenance of the Sabine Neches Waterway, Taylors Bayou and the Gulf Intracoastal Waterway of Texas. Only minimally necessary funds are requested, to insure the operation and maintenance of these vital federal waterways.

The major refineries on our Sabine Neches Waterway annually produce a high percentage of America's energy fuels. The Waterway handles up to 52,000,000 short tons of commerce, including import crudes, domestic and export shipments as well. The economic and military security of America depends on keeping these vital waterways open, now and in the future.

The Gulf Intracoastal Waterway of Texas is an indispensable connecting link between hundreds of chemical and petrochemical plants and other refineries, here and across the Gulf Coast. Combined plant investment of these essential industries exceeds $30 billion, just on the Texas segments of the Gulf Intracoastal Waterway, alone, according to estimates available.

No new construction is anticipated in these requests, and the funds appropriated are vital to our economy and national defense. Your favorable consideration is justified, we submit, and is respectfully submitted.

STATEMENT OF PORT OF BEAUMONT, TX

The Port of Beaumont Navigation District of Jefferson County, Texas strongly supports those items in the fiscal year 1991 public works budget that propose a total of $6,282,000 for continued operations and maintenance of the Sabine-Neches Waterway.

The Port of Beaumont Navigation District of Jefferson County, Texas is the agency that owns and maintains the public wharves of the Port of Beaumont. The Sabine-Neches Waterway links the public wharves to the Gulf of Mexico.

Proper maintenance of this waterway is absolutely essential for efficient operation of the marine terminals located thereon, and we respectfully urge your committee to approve the requested funds.

TRINITY RIVER BASIN PROJECTS

STATEMENT OF IRVIN MARSHALL RICE, EXECUTIVE VICE PRESIDENT, TRINITY IMPROVEMENT ASSOCIATION

Senator BURDICK. The next witness will be Marshall Rice and your group.

Mr. RICE. Mr. Chairman and members of the committee, my name is I.M. Rice from Dallas, TX, representing the Trinity Improvement Association. I have been asked to act as spokesman for this group, which represents interests throughout the Trinity River basin of Texas, and the city of Houston, which receives water from it.

We have about 54 people in our delegation this year, including mayors and council members, officers of river authorities and water districts, port commissioners, and other service organization officials. I might add we have all traveled here at our own expense to appear before you to present our recommendations on the 1991 appropriations bill.

We want to present some specific comments and recommendations on the 1991 budget.

As a general opening statement with regard to the budget for the civil works program of the Corps of Engineers, we think it is gratifying to note that the nationwide budget request for $3.3 billion represents an increase of about 7 percent over the comparable figure for the fiscal year 1990 budget. But because these projects create the infrastructure on which our quality of life and economic growth depend, we support this budget generally even though project users and beneficiaries will put up considerably more of the total than has been true in the past.

A summary of the projects which we specifically support appears at the beginning of our written testimony, copies of which have been provided the committee. It itemizes a request for 17 projects totaling $38,272,000, projects which directly affect the Trinity River basin.

Now, this is $22 million less than the budget called for last year, and it reflects the nearing of completion on two major construction projects. The major one we have left which is now underway is

Cooper Lake, about which you will hear more from another witness.

I do wish to amend the summary of request, which is the first page of our written testimony. We submit additional funding requests for $9.2 million for continuing construction of the Wallisville Lake project to which Representative Brooks just referred, and $350,000 for the Dallas floodway extension.

These moneys are needed and the projects will return many dividends in the form of water supply and water quality benefits, flood protection and recreation.

Finally, Mr. Chairman, I would tell you that a complete list of our delegation is in your copies of the testimony. Mr. Brooks had a young lady to introduce. We have a young delegate also. That is Mr. Chad Byrd of Huntsville, TX, who is accompanied by his grandparents today.

[The statement follows:]

STATEMENT OF I.M. RICE

I. M. R.

MY NAME IS ~~LOUIS BEE~~CHERL OF DALLAS, TEXAS,

I HAVE BEEN ASKED TO SERVE AS SPOKESMAN FOR THIS DELEGATION WHICH REPRESENTS INTERESTS FROM THROUGHOUT THE TRINITY RIVER BASIN AND THE CITY OF HOUSTON WHICH IS OUTSIDE THE BASIN BUT RECEIVES WATER FROM IT. NUMBERING 50 PERSONS, THE DELEGATES INCLUDE MAYORS AND COUNCIL MEMBERS, OFFICERS OF RIVER AUTHORITIES AND WATER DISTRICTS, PORT COMMISSIONERS AND WATER UTILITY MANAGERS, CHAMBERS OF COMMERCE, AND OTHER SERVICE ORGANIZATION OFFICIALS. I MIGHT ADD THAT ALL HAVE TRAVELED TO WASHINGTON AT THEIR OWN EXPENSE, WITH THE TRINITY IMPROVEMENT ASSOCIATION SERVING AS COORDINATOR. WHILE THE GROUP IS DIVERSE GEOGRAPHICALLY, WE ARE UNITED IN PURPOSE.

YOU HAVE HEARD TESTIMONY FROM OUR CONGRESSIONAL REPRESENTATIVES CONCERNING SOME OF OUR NEEDS. WE WANT NOW TO PRESENT SPECIFIC COMMENTS AND RECOMMENDATIONS ON THE FY 1991 BUDGET PROPOSALS. WITH REGARD TO THE BUDGET FOR CIVIL WORKS FOR THE CORPS OF ENGINEERS, IT WAS GRATIFYING TO NOTE THAT THE NATIONWIDE BUDGET REQUEST FOR $3,333,600,000 REPRESENTS AN INCREASE OF 7% OVER THE COMPARABLE FIGURE FOR FY 1990. BECAUSE THESE PROJECTS CREATE THE INFRASTRUCTURE ON WHICH OUR QUALITY OF LIFE AND ECONOMIC GROWTH DEPEND, WE SUPPORT THIS BUDGET GENERALLY EVEN THOUGH PROJECT USERS AND BENEFICIARIES ARE BEING ASKED TO PUT UP CONSIDERABLY MORE OF THE TOTAL THAN IN THE PAST.

A SUMMARY OF PROJECTS WHICH WE SPECIFICALLY SUPPORT APPEARS AT THE BEGINNING OF OUR WRITTEN TESTIMONY. IT ITEMIZES THE FY 1991 BUDGET REQUEST FOR $38,272,000 FOR 17 PROJECTS AFFECTING THE TRINITY RIVER BASIN. THIS IS $22,150,000 LESS THAN REQUESTED FOR FY 1990 FOR 20 PROJECTS. THESE REDUCTIONS REFLECT THAT CONSTRUCTION IS BASICALLY COMPLETE AT LAKES RAY ROBERTS AND JOE POOL, AND THAT THE ONLY MAJOR CONSTRUCTION ACTIVITY NOW UNDERWAY BENEFITTING THE TRINITY BASIN IS COOPER LAKE ON THE SULPHUR RIVER WHICH WILL SUPPLY WATER TO THE CITY OF THE IRVING AND THE NORTH TEXAS MUNICIPAL WATER DISTRICT.

WE ALSO SUBMIT ADDITIONAL FUNDING REQUESTS FOR $6,000,000 FOR CONTINUING CONSTRUCTION OF WALLISVILLE PROJECT AND $350,000 FOR FLOOD CONTROL FEASIBILITY STUDIES OF THE UPPER TRINITY RIVER AND TRIBUTARIES. THESE MONIES ARE NEEDED AND THE PROJECTS WILL RETURN MANY DIVIDENDS IN THE FORM OF WATER SUPPLY AND WATER QUALITY BENEFITS, FLOOD PROTECTION, AND RECREATION FOR OUR CITIZENS.

FINALLY, MR. CHAIRMAN, I WISH TO POINT OUT FOR THE RECORD THAT A COMPLETE LIST OF OUR DELEGATION APPEARING HERE TODAY, AND COPIES OF THE TESTIMONY TO BE GIVEN BY OUR GROUP, IS SUBMITTED TO THE COMMITTEE.

WITH THESE REMARKS, I WOULD LIKE TO CALL ON A FEW MEMBERS OF THE DELEGATION WHO WILL SPEAK BRIEFLY ON PROJECTS OF SPECIFIC CONCERN TO THEIR AREAS.

SUMMARY OF REQUESTS - FY 1991

ON BEHALF OF THE TRINITY RIVER OF TEXAS DELEGATION, THE TRINITY IMPROVEMENT ASSOCIATION RECOMMENDS THE SUPPORT OF CONGRESS FOR THE FOLLOWING PROJECTS OF THE CORPS OF ENGINEERS IN CONSIDERING THE ENERGY AND WATER DEVELOPMENT APPROPRIATION BILL FOR FY 1991.

FUNDING REQUESTS:

PROJECT	BUDGET REQUEST
SURVEYS	
FIVE MILE CREEK-DALLAS, TX	$ 135,000
UPPER TRINITY RIVER BASIN, TX	$ 650,000
CONSTRUCTION	
COOPER LAKE, TX	$ 17,400,000
JOE POOL LAKE, TX	$ 600,000
RAY ROBERTS LAKE, TX	$ 4,900,000
OPERATIONS & MAINTENANCE	
BARDWELL LAKE, TX	$ 876,000
BENBROOK LAKE, TX	$ 1,254,000
COOPER LAKE, TX	$ 137,000
DENISON DAM, TX	$ 4,314,000
GRAPEVINE LAKE, TX	$ 1,605,000
JOE POOL LAKE, TX	$ 519,000
LAVON LAKE, TX	$ 1,970,000
LEWISVILLE LAKE, TX	$ 1,903,000
NAVARRO MILLS LAKE, TX	$ 1,052,000
RAY ROBERTS LAKE, TX	$ 535,000
TRINITY RIVER & TRIBUTARIES	$ 20,000
WALLISVILLE LAKE, TX	$ 402,000

ADDITIONAL FUNDING REQUESTS:

WALLISVILLE PROJECT

IT IS REQUESTED THAT FUNDS BE APPROPRIATED FOR WALLISVILLE CONSTRUCTION IN THE AMOUNT OF $6,000,000.

DALLAS FLOODWAY EXTENSION

IT IS REQUESTED THAT FUNDS BE APPROPRIATED FOR RESTUDY OF THE DALLAS FLOODWAY EXTENSION IN THE AMOUNT OF $350,000.

TRINITY IMPROVEMENT ASSOCIATION
1990 CONGRESSIONAL HEARINGS
DELEGATE NAMES AND ADDRESSES

UPPER TRINITY:

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Mr. I. M. Rice
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Mr. Maurice Locke
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Joe Pool Lake Planning Council:

Mr. Greg Patton
President
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North Texas Municipal Water District:

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President, Board of Directors
North Texas Municipal Water District
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Executive Director
North Texas Municipal Water District
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Tarrant County Water Control & Improvement District No. 1:

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North Central Texas Council of Governments:

Mr. Gary Skaggs
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Ms. Nancy Pascale
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Mr. Mark Chew
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Mrs. Sandy Weir
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Other Individuals:

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City of Liberty:

The Honorable C. Scott Parker
Mayor
City of Liberty
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Port of Liberty Commission:

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Mr. John Hebert
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Mr. Ernie Zieschang
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Mr. Jeff Winter
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Ms. Linda Lassister
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Chambers-Liberty Counties
Navigation District:

Mr. James Gibson
Secretary
Chambers-Liberty Counties
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Other Individuals:

Mr. Anthony Santone
Vice President, Transportation
Allied Tube and Conduit
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RESOLUTION

A UNANIMOUS RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LIBERTY OFFICIALLY URGING THE CONGRESS OF THE UNITED STATES TO APPROPRIATE FUNDS IN THE PROPOSED FEDERAL BUDGET FOR FISCAL YEAR 1991, INSURE THAT PROPER STEPS ARE TAKEN FOR THE COMPREHENSIVE PLANNING AND IMPLEMENTATION OF THE WATER RESOURCE REQUIREMENTS FOR THE TRINITY RIVER.

WHEREAS, The economic and social progress of the Trinity River Basin is heavily dependent upon the wise use and further development of the limited water resources; and,

WHEREAS, Previous federal budgets have allocated funds for water resource projects in the Trinity River Basin; and,

WHEREAS, These funds have been allocated to maintain the proper operation of the navigation channel from the mouth of the Trinity River to Liberty, Texas, which is an important element to the economy of the lower river basin; and,

WHEREAS, The need for continued maintenance dredging in the Trinity River Channel is becoming more important with the continued industrial development in the Port of Liberty.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LIBERTY, TEXAS:

That the Congress of the United States be urged to appropriate funds for the continued support for the Trinity River Basin and to insure that proper steps are taken for the comprehensive planning and implementation of the water resource requirements for the Trinity River Basin, Texas.

UPON MOTION DULY MADE, SECONDED AND CARRIED the above Resolution was PASSED AND APPROVED THIS the 13th day of March, 1990.

Sandra Puckett
Mayor
Pro-Tem

RAY ROBERTS LAKE, TX

STATEMENT OF JOHN EVANS, MAYOR PRO TEM, CITY OF DALLAS

Mr. RICE. With these remarks, I would like to call on a few members of the delegation, who will speak briefly on projects of specific concern to their areas. The first is Mayor Pro Tem John Evans, city of Dallas.

Mr. EVANS. Mr. Chairman, my name is John Evans. I am mayor pro tem of the city of Dallas, TX.

Let me express my appreciation as well as that of the city councils of Dallas and Denton, TX, for your committee's continued support for Ray Roberts Lake. My testimony today is presented on behalf of the cities of Dallas and Denton, who are cosponsors of this project.

I request that the administration for the year 1991 budget request for funds to continue construction of Ray Roberts Lake to be accepted and supported by this committee. The project is necessary to provide water, recreation, flood protection for the citizens of our cities.

The year 1991 request for $4,900,000 for Lake Ray Roberts will be used to continue land acquisition, to delineate the boundaries of Lake Lewisville, to construct the scheduled recreation facilities, to initiate development of the diked wetlands.

With your approval of this funding, the project can remain on schedule. Any cutbacks could mean a delay in the timely completion of this project, which could hamper us greatly in meeting the water and recreational needs of our region.

Additionally, I would like to request approval for the $135,000 for preconstruction engineering and design of Five Mile Creek project in Dallas and to express a need for continuing feasibility studies on the Upper Trinity River basin as a followup to the regional environmental impact statement prepared by the Corps of Engineers for the Dallas-Fort Worth metroplex.

The EIS warned of potential dangers of catastrophic flooding which could take place in our area resulting from a standard project flood occurring in the upper Trinity River and its tributaries. The year 1991 budget contains a request for $650,000 to continue this important work.

I urge your careful consideration and approval of full funding of the administration's budget request for this necessary project.

Finally, I have one added funding request. In May and June 1989, high water in the Trinity River caused severe flooding of the unprotected southern parts of Dallas, resulting in the loss of life and severe property damages. The city of Dallas has formally notified the Corps of Engineers of its intention to participate formally in the local sponsor of the Dallas floodway extension project. However, the notification did not reach the Corps in time to be included in the year 1991 budget cycle.

Recently, the Corps testified before the House committee and expressed a capability for the year 1991 of $350,000 for reevaluation for this very important project. In order to save a year's time, it is requested that additional funds be appropriated for the Dallas Floodway extension project in the amount of the Corps' expressed capability.

I might say to you, Mr. Chairman, that we took this so seriously that our citizens have voted several millions of dollars to do the upper reaches of Five Mile Creek and to begin work on the flooding capabilities retention in the southern sector.

Thank you for providing the time to testify before this committee. Your support on these urgently needed projects is appreciated.

Thank you, Senator Burdick.

Senator BURDICK. Thank you.

Mr. RICE. The next speaker is Mr. John Rhea, of the Trinity River Authority of Texas.

JOE POOL LAKE, TX

STATEMENT OF JOHN RHEA, MEMBER, BOARD OF DIRECTORS, TRINITY RIVER AUTHORITY OF TEXAS

Mr. RHEA. I thank you, Mr. Chairman, for the opportunity to come before you and tell our story. I will be brief.

My name is John Rhea of Dallas, TX. I am a member of the board of directors of the Trinity River Authority of Texas, representing Dallas County, and I currently serve as president of the board.

We have filed a complete statement for the record, so I will only make a few additional comments.

This past year, the authority, in cooperation with the Fort Worth District Corps of Engineers, placed in operation three parks on Joe Pool Lake. These parks represent a major financial undertaking on the part of the authority, for which no funds other than user fees are available.

The next 5 months will determine the ability of the authority to satisfy the cost-sharing repayment schedule. This type of agreement is one of the first placed in operation in the country where the local sponsor has no tax or ad valorem base, and we believe it deserves monitoring by your committee.

We would welcome members of your committee to tour and discuss the project's many unique features in the near future.

The other project I will mention is Wallisville. We have heard a lot about that. We are very appreciative of Congressman Brooks' efforts, for his diligent, untiring support. As one of the three local sponsors, we support the inclusion of an additional $9.2 million in the budget for continuing construction of this very important project.

Thank you, sir.

[The statement follows:]

STATEMENT OF JOHN RHEA

I AM JOHN RHEA OF DALLAS, TEXAS. I AM A MEMBER OF THE BOARD OF DIRECTORS OF THE TRINITY RIVER AUTHORITY OF TEXAS REPRESENTING DALLAS COUNTY AND CURRENTLY SERVE AS PRESIDENT OF THE BOARD OF DIRECTORS.

TRA SUPPORTS THE FY 1991 FUNDING CAPABILITIES FOR THE U. S. ARMY CORPS OF ENGINEERS' PROJECTS FOR WHICH WE SERVE AS LOCAL SPONSORS.

JOE POOL LAKE

JOE POOL LAKE IS A CORPS OF ENGINEERS' FLOOD CONTROL, WATER SUPPLY AND RECREATION PROJECT LOCATED IN SOUTHWEST DALLAS AND SOUTHEAST TARRANT COUNTIES. THE MUCH ANTICIPATED OPENING OF RECREATION FACILITIES, AND THE OPENING OF THE LAKE ITSELF, FINALLY OCCURRED ON AUGUST 18, 1989.

THE PUBLIC'S RESPONSE WAS UNPARALLELED IN THE HISTORY OF LAKE OPENINGS IN TEXAS. ALMOST 30,000 PEOPLE PAID ENTRANCE FEES AT TRA'S TWO LARGEST PARKS BY THE END OF AUGUST. THOUSANDS MORE ACCESSED THE LAKE THROUGH ANOTHER SMALL PARK WHERE ENTRANCE FEES WERE NOT CHARGED. BY THE END OF DECEMBER, ALMOST 84,000 PEOPLE HAD VISITED OUR PARKS WHERE ENTRANCE FEES ARE CHARGED.

ASIDE FROM THE TREMENDOUS RECREATIONAL USE OF JOE POOL LAKE, THIS MOST IMPORTANT WATER PROJECT IS ALREADY RETURNING OTHER DIVIDENDS. THIS CAN BE SEEN BEST IN TERMS OF THE FLOOD PROTECTION JOE POOL LAKE PROVIDED LAST SPRING, AND THE INITIAL WATER SUPPLY USE ON GOING AT THIS VERY MOMENT.

AN ADDITIONAL APPROPRIATION OF $600,000 FOR FY 1991 HAS BEEN RECOMMENDED FOR LAKE JOE POOL. MOST OF THESE FUNDS WILL BE DEDICATED TO CULTURAL RESOURCE MITIGATION IN PREPARING THE HISTORIC PENN FARM SITE AS AN INTERPRETIVE CENTER THAT WILL ALLOW EVEN FURTHER PUBLIC USE. TRA SUPPORTS THIS APPROPRIATION.

WITH ALL THE BENEFITS THAT HAVE ALREADY BEEN GENERATED BY THIS PROJECT, AND THOSE WILL ACCRUE IN THE FUTURE, JOE POOL LAKE HAS TO BE ONE OF THE MOST COST EFFECTIVE INVESTMENTS THE FEDERAL GOVERNMENT HAS EVER MADE. WE COMMEND THIS COMMITTEE FOR THE ROLE YOU HAVE PLAYED IN BRINGING IT TO FRUITION.

WALLISVILLE SALTWATER BARRIER

AFTER MORE THAN A DECADE AND A HALF OF LITIGATION AND DELAY, WE REALISTICALLY EXPECT THE CORPS OF ENGINEERS TO PHYSICALLY RESUME CONSTRUCTION ON THE WALLISVILLE SALTWATER BARRIER IN FY 1990. THE CORPS HAS $4 MILLION TO SPEND TOWARD THAT END IN THE CURRENT YEAR; AND WE ARE ADVISED THEY HAVE THE CAPABILITY OF BENEFICIALLY SPENDING $6 MILLION IN FY 1991. WE MOST EARNESTLY SOLICIT YOUR CONTINUING SUPPORT FOR THIS MOST BELEAGUERED, BUT IMPORTANT, PROJECT.

PREVIOUS FUNDING AND LANGUAGE HAD THE DESIRED IMPACT AND PROVIDED THE PROJECT WITH THE REQUIRED DIRECTION. WALLISVILLE WILL PRIMARILY FUNCTION AS A SALTWATER BARRIER, AND PROVIDE WATER SUPPLY AND RECREATION BENEFITS. ITS STRATEGIC IMPORTANCE CANNOT BE EMPHASIZED ENOUGH.

UPPER TRINITY RIVER BASIN

A COALITION OF NINE CITIES,THREE COUNTIES AND TWO POLITICAL SUBDIVISIONS (INCLUDING TRA) HAVE JOINED WITH THE CORPS OF ENGINEERS TO STUDY AND, HOPEFULLY, MINIMIZE FLOODING PROBLEMS ALONG THE WEST AND ELM FORKS OF THE UPPER TRINITY RIVER. A TOTAL OF $650,000 HAS BEEN RECOMMENDED TO PAY FOR THE FEDERAL GOVERNMENT'S SHARE OF THE STUDY COSTS IN FY 1991. THE SPONSORS WILL MATCH THIS AMOUNT AS THEIR CONTRIBUTION TOWARD THE STUDY FOR THE YEAR. FLOODING IN THIS HIGHLY DEVELOPED PORTION OF THE TRINITY RIVER BASIN BECOMES A LARGER PROBLEM EVERY YEAR, AND WE ENCOURAGE THIS COMMITTEE'S SUPPORT FOR THIS APPROPRIATION AND THE STUDY IT WILL FUND.

OPERATION AND MAINTENANCE

THE CORPS OF ENGINEERS HAS REQUESTED, AND TRA SUPPORTS, APPROPRIATIONS FOR OPERATION AND MAINTENANCE FUNDS IN THE FOLLOWING AMOUNTS FOR THE PROJECTS WE SUPPORT AS LOCAL SPONSOR:

PROJECT	1991 AMOUNT
BARDWELL LAKE	$ 876,000
JOE POOL LAKE	519,000
NAVARRO MILLS LAKE	1,052,000
TRINITY RIVER AND TRIBUTARIES	20,000

CONCLUSION

THANK YOU AGAIN FOR YOUR SUPPORT AND VISION. YOUR EFFORTS CONTINUE TO MAKE THE TRINITY RIVER BASIN A BETTER PLACE TO LIVE.

WALLISVILLE LAKE, TX

STATEMENT OF C.J. SMITH, PUBLIC WORKS DIRECTOR, CITY OF HOUSTON

Senator **BURDICK**. Thank you.

Mr. **RICE**. The next speaker is Mr. C.J. Smith, public works director, city of Houston.

Mr. **SMITH**. Thank you, Mr. Chairman. I am C.J. Smith, acting director of public works for the city of Houston. I am also testifying on behalf of the Houston Partnership, which is a consortium of the Houston Chamber of Commerce, the World Trade Council, and the Houston Economic Development Council.

Houston has completed a comprehensive water master plan, which evaluates the regional needs of our area through the year 2030. We are proud to report that adequate water supplies are available for our region during this planning period, and the current water supply will not only address growth but will solve serious subsidance problems in the coastal region.

Only two specific areas must be addressed: conservation and a saltwater barrier at the mouth of the Trinity River, which is the city's main source of water supply. The city is a local sponsor of the Wallisville project, which will provide the needed protection from saltwater intrusion at the mouth of the Trinity River.

We continue to support this project and encourage this committee to continue its support of this project which is so vital to the water supply for the City of Houston.

Thank you very much for your time, sir.

Senator **BURDICK**. Thank you.

Mr. **RICE**. The next speaker, Mr. Ernie Zieschang, Port of Liberty, TX.

STATEMENT OF ERNIE ZIESCHANG, COMMISSIONER, PORT OF LIBERTY, TX

Mr. **ZIESCHANG**. Thank you, Mr. Chairman.

My name is Ernie Zieschang, and I am testifying as a representative of the Port of Liberty. Liberty is located at river mile 40 near the mouth of the Trinity River. Our community and region are increasingly dependent on shallow draft barge transportation.

The lower Trinity River is one of our major industrial conduits, and the dredging maintenance funds this committee appropriates has a direct and profound impact on our local economy. For this reason, we are most appreciative for the $1 million to be spent on channel maintenance dredging during fiscal year 1990, and support the proposed inclusion of $20,000 for fiscal year 1991.

You can be assured that in the following year when the need for additional maintenance funds develop, we will be prompt in bringing our requirements to your attention.

Our contingent from the lower Trinity River includes Anthony M. Santone, vice president of transportation for Allied Tube and Conduit. This firm has acquired the oil field pipe production facilities of National Pipe and Tube and is located at the Port of Liberty.

He requested us to emphasize the vital importance of reliable barge traffic for the inbound transportation of raw materials and the outbound shipments of finished goods. Allied will be a large employer, taxpayer and factor in our economic development.

Another industry, C&M Construction Materials, is also planning to expand their business activities in our area. As soon as this year's dredging is complete, C&M will begin the bulk shipment of aggregate materials from the Port of Liberty. In order to accommodate this industrial development and promote further growth, we are taking positive action.

The city of Liberty, with the support of the Port Commission, Chambers-Liberty Counties Navigation District, and Allied Tube and Conduit, is in the process of acquiring a $500,000 industrial development grant from the State of Texas. With these funds, we plan to build a new docking facility which will expand the Port's capabilities.

The port also supports the construction of the Wallisville project. It is unfortunate the administration has taken such a hard line opposing this much-needed project. Your continued support of an additional $9.2 million for fiscal year 1991 is most important.

Thank you for your attention to our requests and your past appropriations. This committee plays a very significant role in the well-being of Liberty, and we are most appreciative. Thank you, sir.

Senator BURDICK. Thank you.

Mr. RICE. The next speaker, Mr. Gary Skaggs, North Central Texas Council of Governments.

UPPER TRINITY RIVER BASIN FEASIBILITY STUDY

STATEMENT OF GARY SKAGGS, CHAIRMAN, STEERING COMMITTEE, NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS

Mr. SKAGGS. Mr. Chairman, my name is Gary Skaggs, and I am pleased to be here today on behalf of the North Central Texas Council of Governments. As chairman of the Council of Governments Trinity River Corridor Steering Committee, I am representing the nine cities, three counties, and special districts who have been cooperating with the Corps of Engineers over the last few years in pursuit of a common vision for the Trinity River corridor.

We address you today in support of the $650,000 included in the President's fiscal year 1991 budget proposal for the upper Trinity River basin feasibility study. The Trinity River Corridor Steering Committee consists of elected officials representing the nine cities, the three counties, and two special districts in that corridor.

The intrajurisdictional nature of the Trinity River defines our goal and our purpose: to work in a cooperative fashion to maintain and improve the quality of life along its banks. I am pleased to report that we have been doing so for the past several years.

The recently completed draft Corps reconnaissance study shows that communities along the Trinity River corridor would suffer more than $4 billion in property damages—and if I can stress again, more than $4 billion in property damages—if a standard project flood occurred today.

Fortunately, the reconnaissance study also identifies more than half a dozen viable projects which could lessen these unacceptable flood damages. The affected local governments have already committed to a more stringent development permit process which will ensure that the existing flood risk does not worsen.

We have already obtained the Texas State Legislature's support to provide part of the cost-sharing funds. We are ready with our share. What we need from your committee,]

Senator, is your help through the Federal cost sharing of the feasibility study to identify implementable projects which can reduce damage to property and to minimize loss of life.

I thank you, Senator, for your attention and your support in the past.

Senator BURDICK. Thank you.

Mr. RICE. Our next speaker, Mr. Alex Schell, North Texas Municipal Water District.

COOPER LAKE, TX

STATEMENT OF ALEX SCHELL, PRESIDENT, BOARD OF DIRECTORS, NORTH TEXAS MUNICIPAL WATER DISTRICT

Mr. SCHELL. Mr. Chairman, my name is Alex Schell, and I am the president of the board of directors of the North Texas Municipal Water District. I have had the privilege of serving on the board of directors since 1964 as a representative appointed every 2 years by the city council of the city of Plano.

Local sponsors of the Cooper project include the North Texas Municipal Water District, the city of Irving, and the Sulphur River Municipal Water District. A joint construction contract has been awarded for the construction of a raw water intake structure and other facilities which will allow the local sponsors to utilize water from the project. Total estimated cost of these facilities constructed entirely with local funds will exceed $60 million.

The Cooper Lake and channels project suffered numerous delays because of frivolous environmental claims and litigation filed in the 1970's. The commitment of the local sponsors to put the conservation storage to use is an excellent illustration of the inaccuracy of claims leveled against the project.

The Corps' construction schedule now provides for dam closure in October 1991. In order to meet that schedule, we respectfully request $17,400,000 be appropriated for the Cooper Reservoir project.

The North Texas Municipal Water District and the city of Irving serve an area generally described to include the DFW Airport on the west, plus the cities north and northeast of the city of Dallas. It is difficult, unless you have been to the Dallas-Fort Worth area, to recognize the magnitude of the growth which has occurred during the past few decades.

This growth has placed a significant burden on existing water supplies. To illustrate that, my city that I am from in 1960 was 3,695 people. It has grown today in 1990 to 131,863, and estimated in the year 2000 to be 199,000.

Again, we appreciate the concerns of this committee. We recognize the funds appropriated for this and other multipurpose projects are an investment in the future of America. We hope you will be able to continue to appropriate funds for these needed projects for future generations and uphold the policies as reflected in the Water Supply Act of 1958.

Thank you for your attention and your consideration.

Senator BURDICK. Thank you.

Mr. RICE. Our last speaker is Mayor Pro Tem, Harry White, from the city of Irving.

STATEMENT OF HON. HARRY WHITE, MAYOR PRO TEM, IRVING, TX

Mr. WHITE. Mr. Chairman, my name is Harry White, and I am mayor pro tem of the city of Irving. Let me express the appreciation of the mayor and the city council of Irving for the committee's continued support of the Cooper Lake project.

The budget request of $17,400,000 will allow the Corps of Engineers to proceed in an timely manner with the construction of the project. As one of the local sponsors of the project, we are anxious to utilize water from Cooper Lake at the earliest time it becomes available.

With your continued support, we look forward to the commencement of the impoundment of the lake in the fall of 1991.

Another project that is vital to the citizens in the Dallas-Fort Worth area is the upper Trinity River basin feasibility study. Last year, we requested and received help from the committee to provide funds for the Corps of Engineers to complete preliminary studies to recommend actions needed to prevent catastrophic flooding in the area covering nine cities, three counties and two special districts.

The fiscal year 1991 budget contains a request for $650,000 to be used through Federal cost sharing for feasibility studies to identify projects that can be achieved to offer flood protection to the affected area.

We urge your favorable consideration of the projects I have just described. We are grateful for the support you have given us in the past. We firmly believe that the Federal Government's continued participation in these water resource projects constitute wise and prudent use of the Nation's resources.

Thank you for your kind attention.

Senator BURDICK. Thank you.

Mr. RICE. To sum up, Mr. Chairman, please accept our appreciation for the excellent job you and your committee have done in these difficult times in sustaining sound water resource development programs that have proved their environmental and economic worth. Thank you for letting us appear before your committee.

As we stated last year, we stand ready to bear our part of the burden, asking only that the return on investments to the Nation's economy and the soundness of federal participation in Trinity River Basin water resources development be taken into consideration in arriving at your decision.

Again, it has been a pleasure to appear before you. Thank you very much.

Senator BURDICK. Thank you, gentlemen.

Next is the river authority, Carson Hoge, general manager.

BRAZOS RIVER BASIN PROJECTS

STATEMENT OF CARSON HOGE, GENERAL MANAGER, BRAZOS RIVER AUTHORITY

Mr. HOGE. Thank you, Mr. Chairman, members of the subcommittee, staff. I am Carson Hoge, general manager of the Brazos River Authority. After listening to the testimony of the groups that preceded us, I would be embarrassed by the modesty of our request here today, except that we believe it to be an innovative approach that offers a unique opportunity for the investment of Federal funds to maximize the benefits from that investment.

We also consider it to be a very important activity that we are asking support of. As evidence of that, there is also present today the president, vice president, secretary, and seven other members of the board of directors of the authority, and three members of the staff. With your permission, I would like to read the names of those directors and staff members and ask them to identify themselves as I read their names.

Mr. Robert Upham of Mineral Wells is president of the board. Mrs. Deborah Bell, Abilene, vice president; Mr. Perry Dalby of Belton, secretary; Mrs. Ruth Schiermeyer of Lubbock, member of the board; Mr. Don Kirby, Mineral Wells, member of the board; Mr. Jerry Boone, Burleson, member of the board; Mr. Jim Mills, Round Rock, a member of our board; Mr. James Wood, Waco, member of the board; Mr. Chauncey Bogan, Houston, member of the board; Mr. Ramiro Galindo of Bryan, member of the board; Mr. Roy Roberts, assistant general manager; Mr. Jack Wooley, assistant general manager and treasurer; Mr. Mike Bukala, administrative assistant.

The Brazos River Authority is a governmental subdivision of the State of Texas, a conservation and reclamation district created in 1929 to provide for the conservation, development, and beneficial utilization of the surface water resources of the Brazos River basin in Texas, an area of almost 43,000 square miles.

It is governed by a board of 21 directors appointed by the Governor and approved by the Texas Senate for 6-year terms. The authority owns and operates three major reservoirs of its own and is local sponsor for all nine of the Federal reservoirs in the basin, with contractual rights to use their conservation storage for water supply purposes.

Together, this system of reservoirs stores more than 2 million acre-feet of water and can furnish a dependable supply of 650,000 acre-feet of water per year. The authority uses this water to supply the needs of cities, towns, rural water systems, industries and individuals throughout the Brazos basin.

The authority is currently planning the development of additional supplies for some 32 cities, water districts, rural water supply corporations, and municipal utility districts throughout the Brazos basin. An important part of this development is the authority's proposed Lake Bosque.

Lake Bosque would be built on the Bosque River, a tributary of the Brazos, upstream of Lake Waco. Lake Waco is a Federal reservoir operated by the U.S. Army Corps of Engineers. In a study completed by the Corps in November 1988 under the Dam Safety Assurance Program, it was found that as it now exists, Lake Waco Dam cannot pass the probable maximum flood without being overtopped, but that if the authority's proposed Lake Bosque were to be built, as now planned, the probable maximum flood would be modified sufficiently that it could be passed through Lake Waco without overtopping the dam.

These findings by the Corps of Engineers indicate that the construction of Lake Bosque would provide significant reduction and, with some modification in design, might eliminate entirely the need for Federal expenditures at Lake Waco to correct the flood hazard that has been found to exist there.

If this is the case, we believe that Federal dollars would be much better spent in helping pay the costs of Lake Bosque, thereby not only solving the flood problem but also helping to provide much-needed water supplies to hundreds of thousands of citizens in the Brazos basin rather than spending the same money at Lake Waco, where the only benefit would be to solve the flood problem, possibly at an even greater cost.

We have requested Federal participation in Lake Bosque to the extent of Federal savings in flood safety work required at Lake Waco. A study is needed to determine what these savings would be. The district engineer's request for authorization to make the study was not forwarded early enough to be included in the President's fiscal year 1991 budget, but the Southwestern Division Engineer, Gen. Robert C. Lee, has testified to this committee that the Corps has the capability to utilize $150,000 of Federal funds in fiscal year 1991 to conduct a feasibility study of this matter.

The authority has officially committed to serving as local sponsor of the study and paying the sponsor's 50 percent share of its costs.

We are here respectfully requesting the committee to approve inclusion of $150,000 in the fiscal year 1991 appropriations for this study and to instruct the Corps of Engineers to make the study and report back to Congress whether and to what extent the Federal Government could help pay the costs of Lake Bosque to solve the flood problem at Lake Waco without increasing the overall costs of solving that problem.

Senator, I am available to answer any questions that you might have about this request.

Senator **Cochran** [presiding]. Well, Mr. Hoge, we appreciate your being here and presenting this information to the committee. We assure you we will carefully review it, and I hope we will be able to make provision for it in the bill. We have got a lot of constraints on the budget this year, and everybody knows that. There is no need to repeat them. But we appreciate your taking time to be here and to express these thoughts and give us these facts as general manager of the river authority.

Mr. **Hoge**. Thank you, sir, for your time.

Senator **Cochran**. Thank you.

[The statement follows:]

STATEMENT OF BRAZOS RIVER AUTHORITY

SUMMARY OF REQUEST

The Brazos River Authority, an agency of the State of Texas with statutory responsibility for conservation and development of the surface water resources of the 42,000 square-mile Brazos River Basin in Texas, respectfully urges the appropriation of $150,000 in Fiscal Year 1991 for a feasibility study by the U.S. Army Corps of Engineers to quantify Federal benefits from flood protection/dam safety at Waco Lake resulting from construction and operation of the Authority's proposed Lake Bosque upstream. Funds for this Study are not included in the President's Fiscal Year 1991 Budget, but the Southwestern Division Engineer has testified that the Corps of Engineers has a $150,000 capability to initiate the feasibility phase of the Bosque River Watershed, Texas, Study in Fiscal Year 1991. The Brazos River Authority has agreed to serve as local sponsor for the Study and has agreed to pay the required 50% non-Federal share of the Study costs.

Background and Summary of Justification for Requested Appropriation for Feasibility Study

Lake Bosque is a much needed water supply project which the Brazos River Authority is developing on the North Bosque River as part of a basin-wide program to meet present and future municipal surface water needs of approximately 32 cities, water districts, rural water supply corporations and municipal utility districts located throughout the Brazos Basin, Texas. The costs for permitting, design, construction and operation of the Lake Bosque Project are entirely locally funded. At the present time, the Authority is awaiting a decision on its application to the Texas Water Commission for necessary State water rights for Lake Bosque and completing the project engineering design. Construction is scheduled to start in 1991.

The capability of Waco Lake, a Federal flood control and water supply project, to accommodate safely the various flood events to which it is subjected, up to and including the Probable Maximum Flood (PMF), was evaluated by the Fort Worth District, U.S. Army Corps of Engineers (FWD-COE) and the results were published in a November 1988 report, WACO LAKE, BOSQUE RIVER TEXAS, DAM SAFETY ASSURANCE PROGRAM RECONNAISSANCE REPORT ("the Report"). As presently constructed, the Waco Dam cannot pass the PMF without being overtopped. The Report shows that the construction of Lake Bosque Dam, as proposed by the Brazos River Authority on the North Bosque River upstream of Lake Waco, will lower the maximum water surface elevation during passage of the PMF through Waco Lake from approximately 1.0 foot above to 0.4 foot below the existing top of the dam. Without Lake Bosque the maximum PMF water surface elevation would be just over 511 feet National Geodetic Vertical Datum (NGVD). The dam embankment crest is at elevation 510 feet NGVD. The maximum PMF water surface elevation with Lake Bosque in place as planned by Brazos River Authority would be 509.59 feet NGVD.

In Chapter 4, "RECOMMENDATIONS", of the Report, the Fort Worth District Corps of Engineers briefly discussed five alternatives for physical modifications to restore the hydraulic adequacy of Waco Dam with Lake Bosque in place and ended with a discussion of the alternative of making no modifications to the existing structure. The alternatives discussion in the Report is preceded by the following statement:

> "Although Waco Dam has some freeboard (0.41 feet), after the addition of Lake Bosque, there were several options considered in order to restore adequate freeboard to Waco Dam. These options were given a cursory review, but no detailed analysis or cost estimates were performed. According to Dam Safety Regulations, if a structure is lacking only adequate freeboard, the study will be held in abeyance until some later date."

At the end of the discussion, the Fort Worth District sums up with the following statement:

> "With the addition of Lake Bosque having the effect of lowering the maximum water surface elevation of Waco Lake, the decision was made that no modifications should be recommended for Waco Dam. Therefore, this study recommends that any further work on alternatives for modifying Waco Dam for dam safety be suspended. If it becomes apparent that Lake Bosque is not going to be funded and constructed, then additional work on Waco Lake alternatives would be performed and an addendum to this Reconnaissance Report would be prepared."

Obviously, immediately upon completion, Lake Bosque Dam will provide economic savings to the United States Government by retarding flood flows. The Fort Worth District recognized this benefit and sought to take advantage of it within existing Dam Safety Regulations which would allow additional studies and the ultimate physical modification of the Waco Dam to be held in abeyance until some later date.

The Brazos River Authority has corresponded with the Fort Worth District and requested federal participation in the costs for the construction of Lake Bosque Dam.

The Brazos River Authority does not contend that the construction of Lake Bosque Dam will entirely and forever eliminate the need for physical modification to Waco Dam. It is, however, clear that the construction of Lake Bosque Dam will provide real and meaningful cost savings to the United States Government in two ways:

1. Additional studies and modifications for freeboard can, according to current Corps of Engineers policy, be held in abeyance. Assuming that funds are eventually available to modify Waco Dam and that Corps of Engineers policy dictates that it be done at that time, the United States Government has, in the interim, saved the annual cost to finance the modification and any annual increase in maintenance and operation cost due to the modification.

2. Any physical modification to Waco Dam required because of freeboard criteria only (which would be the case with Lake Bosque Dam in place) would be much less costly than a modification which would be

> required to allow Waco Dam to safely pass the Probable Maximum Flood without Lake Bosque in place. The freeboard criteria could possibly be met with a timely sandbagging operation.
>
> The cost difference between the physical modification required at Waco Dam without Lake Bosque in place and that which would be required with Lake Bosque would provide significant savings to the United States Government.

The Brazos River Authority requests that the Subcommittee add the requested appropriation and direct the Corps of Engineers to make studies necessary to evaluate the flood reduction benefits which Lake Bosque will provide at Waco Dam and Reservoir and report back to the Subcommittee with a recommendation of the appropriate level of financial participation in the Lake Bosque Project. The full amount of the Corps' stated capability of $150,000 is needed to initiate this study in FY 1991.

GULF INTRACOASTAL WATERWAY

STATEMENT OF VERNON BEHRHORST, PAST PRESIDENT, GULF INTRACOASTAL CANAL ASSOCIATION

ACCOMPANIED BY DALE MILLER, CHAIRMAN OF THE BOARD, GULF INTRACOASTAL CANAL ASSOCIATION

Senator **COCHRAN**. Our next witnesses are Vernon Behrhorst and Dale Miller, representing the Gulf Intracoastal Canal Association.

Mr. **BEHRHORST**. My name is Vernon Behrhorst. I am past president of the Gulf Intracoastal Canal Association from Lafayette, LA. Accompanying me is Dale Miller, chairman of the board of Gulf Intracoastal Canal Association. Mr. Bob Parker, the president, is unable to be with me but concurs in the statement which we are giving here, as well, Senator, as Mr. Lee Brant from Greenville, who is a member of our board, vice president, representing the State of Mississippi.

I was going to quote the old Biblical adage about the last being first and the first last, but I see there are a couple left on here after us yet; but near being last is maybe just as well.

Senator, in your office as well as the offices of all the other members of the Energy and Water Development Subcommittee, we left a packet with several videos in it on the Gulf Intracoastal Waterway, and here is a little brochure that was in there. It is our 85th anniversary, so it is about time we go out and tell something about it, and it is going to go out nationally on PBS stations and so forth, so it is a quality production.

It talks not only about the Gulf Intracoastal Waterway but all the connecting waterways. Somebody even said, are you telling the story of the Intracoastal Waterway or are you telling the story of the Tennessee Tom Bigbee Waterway, because it is in there, as well.

I am going to be very brief. I am going to focus on just a very small part of my written testimony, which has been submitted for the record.

OPERATION AND MAINTENANCE CONCERNS

My concern here is on the operation and maintenance funding for water resources projects, particularly the Gulf Intracoastal Waterway, because the administration's request for the Gulf Intracoastal Waterway is $6 million less than what you appropriated for it last year. In fact, you upped the administration's request last year.

I know it is difficult times, and this has to be done. Our concerns are this. If I may use an illustration from the State of Texas, we go all the way from Texas to Florida. We just came from New Orleans, where the Inland Waterway User Board met on Monday and Tuesday, which recommends spending inland waterway trust fund moneys, and this was a major concern there.

SARGENT BEACH, TX, EROSION

One of our major considerations is Sargent Beach over in Texas. Now, there is nothing in there except money for a study, to continue a study, but it was pointed out on Tuesday, now, this whole thing goes up in the air, the figures and everything, if a hurricane should hit that post. A hurricane missed it by 200 miles and gnawed off 75 feet last year. But if this should go across there next year and breach it, the Gulf Intracoastal Waterway would be put out of commission south of that point.

Now, to repair that even interimly would require a considerable amount of additional maintenance funds. We do not have enough to do what we need to do now. I give a couple of examples in there.

Now, our concern is here, too, when the administration submitted its budget, that in O&M it included funds from an increase in the harbor maintenance tax, $290 million. Well, if those funds do not become available, if the Congress does not approve this increase, what happens there?

I think we need a clarification. I would ask you, this committee, and we asked the House to do the same thing, to give a clarification of whether, in the appropriation which you will make, there will be a shortfall if that is not put in there or whether the appropriation will be the same without those funds.

If we have to take $290 million cut, which will be a significant cut not only for us but everybody else, we will be in real trouble. This really is our immediate concern right now, and I will not go into the other projects and so forth which we are requesting funds. They are in our written testimony.

We certainly appreciate the generosity of support which you have given us before, and we thank you for that.

[The statement follows:]

STATEMENT OF VERNON BEHRHORST

We thank you for the opportunity to again appear before you to lend our support to funding for navigation and related projects associated with the Gulf Intracoastal Waterway and connecting waterways. Accompanying me is Mr. Dale Miller, Chairman of the Board of GICA. Mr. R.H. "Bob" Parker, Jr., GICA President, is unable to be with us. He asked me to extend his thanks and best wishes and assure you of his concurrence in this statement.

In the heading above it states, "Organized in Victoria, Texas - August 8, 1905." Later this year we will return to Victoria to observe our eighty-fifth anniversary as the oldest, continuing water transportation organization. This year, besides observing our anniversary, we reach another high point in service to the water transportation industry and the public by producing a quality, one-half hour video on the Gulf Intracoastal Waterway entitled, "Divided Waters - The Connecting Link." Each of you has been provided a copy of the broadcast edition and the abbreviated nine-minute edition which emphasizes the economic contributions of the GIWW and connecting waterways to our nation and focuses on our two major concerns on the GIWW - the antiquated Industrial Canal Lock at New Orleans and erosion at Sargent Beach which threatens the very existence of the GIWW. We released this video earlier this week.

Because we want to attract a national viewing audience, we engaged first-rate talent to produce this video for us. Mary Ann Krum, the talented President of Legend International Films, wrote, produced and directed it in association with Louisiana Public Broadcasting, the PBS affiliate in Louisiana. Rick Smith, Executive Producer for LPB, coordinated LPB's participation. Both are deserving of highest praise for this exceptional production. We hope you enjoy viewing it, keeping in mind while doing so, that our objective is to educate America's citizens on the importance of our waterways to them. By doing so, we hope that we will be of assistance to you and make your job easier and more productive. The video contains strong supporting information and data which, we believe, will achieve this.

Also, this week the Inland Waterways Users Board met in New Orleans, sampled our hospitality and toured area navigation facilities. They saw first-hand the situation at Industrial Canal Lock and the ever-increasing congestion at Algiers Lock where the GIWW enters the Mississippi River on the west bank.

We hope that they were impressed sufficiently to move the Industrial Canal Lock from the Board's "priority study list" to its "priority construction list" when studies are completed later this year. We urge sufficient funds for preconstruction engineering and design as soon as the Corps is capable of using them to insure that replacement of this antiquated structure can be completed as quickly as possible.

I quote several statistics from our video to emphasize the urgency of the need. A tow with two barges waiting ten hours to lock through will lose between $900 and $1,800 per trip and one having to wait two days, which is not uncommon, could lose up to $8,640 per trip. Last year, 52,426 shallow draft bottoms (barges and towboats) locked through carrying 26.5 million tons of cargo. Roughly calculated, this is almost one dollar added to the cost of moving each ton of cargo through the lock.

Half of the shallow-draft portion of the replacement cost is to be paid from the Inland Waterways Trust Fund which is private-sector contributed money derived from the fuel tax on barge propulsion fuel that went up to $.11 per gallon this year on its way to $.20 by 1995. Are not the towboat operators who pay this tax entitled to priority attention so that their delays can be reduced as soon as possible? We are confident that the Board will recommend priority construction to you. I wish to note, that there is a growing cooperative effort among those involved locally to expedite this project. We pledge our full support and cooperation.

With regard to locks, we have an increasing concern about congestion and delays at locks elsewhere on the GIWW and connecting waterways. I cite a current situation. Freshwater Bayou Lock is on a tributary channel to the GIWW, and much of the traffic passing through this lock moves to and from the GIWW. The Corps of Engineers has scheduled periodic maintenance for the months of July - September when the gates will be removed for repairs and painting. Temperature dictates that the work be done at this time of the year which happens to be the peak fishing season and the period of maximum offshore oil and gas activity. A survey is being conducted to determine the impact of doing the maintenance at this time. With only 40% of the responses received, the estimated monetary loss will be $15 million and 334 people will lose their jobs, at least temporarily. If a building of sufficient size, with climatic controls and at a convenient location along a waterway could be made available, this work could be shifted to January-March timeframe when impacts upon the fishing industry and offshore mineral activity would be greatly reduced. Also, it would make scheduling of work on the gates more predictable, saving money in the long-run. Within a radius of 150 miles of Intracoastal City, near the location of Freshwater Bayou Lock, are 18 other locks and gates on navigable waterways under Corps of Engineers' jurisdiction. All will require periodic maintenance and repair. Would it not be wise to have a facility accessible by barge where the gates of these structures can be repaired and maintained under optimum conditions, reducing downtime at the locks, maintenance costs and economic losses to the public? Looking into the future, we can expect a large number of gated water control structures will be needed for wetlands management along the Gulf Coast. They will require similar maintenance.

We express our appreciation for your concurrence with our last year's requests for increased operations and maintenance funds for two tributary waterways - the Pearl River and the Tri Rivers (Apalachichola Chattahoochee - Flint Rivers). We urge continuing funding for these waterways. Also, you provided $1.4 million in additional funding for O&M on the GIWW itself.

With regard to FY 1991 O&M funds for the GIWW, we are concerned that the Administration has requested $6.2 million less than Congress appropriated last year. We question the adequacy of this request considering it is a reduction of almost 20%. We do know that carryover of contracts has shifted the payment of O&M costs to the following fiscal year, decreasing the funds available for that year. Also, I cite an example of one-time major repairs which could reduce drastically funds available for maintenance dredging. These are the repairs that must be done on the jetties and guidewalls at the Brazos and Colorado River crossings of the GIWW. Once maintenance is deferred due to lack of funding, recouping the loss becomes more expensive in the future. Our concern is compounded by the fact that the Administration's request for General Fund appropriations for O&M is 25% less than you appropriated last year. O&M funds for the GIWW and other shallow-draft waterways come from this General Fund appropriation. Should the Harbor Maintenance Tax not be increased by the Congress, which is highly likely, we will be in real trouble unless additional O&M funds are appropriated.

Our Association's other major concern is erosion at Sargent Beach, Texas. At some places the shoreline is being gnawed away at a rate exceeding 30 feet per year, leaving the open Gulf within 600 feet of the GIWW. A hurricane could take one gargantuan bite out of the remaining strip of land, completely immobilizing the GIWW between this point and the Mexican border. The Corps of Engineers has requested $500,000 to continue studies of this situation and make its recommendations next year. We urge appropriation of these funds, and solicit your support for corrective action as soon as possible.

Another $500,000 has been requested for a study of bank erosion along the GIWW in the Aransas National Wildlife Refuge a short distance from Sargent Beach. We support this request. The Southwest Division Engineer has already told you of the successful, joint Corps of Engineer, Fish and Wildlife Service and private sector effort in retarding erosion in the Aransas refuge. GICA members participated in this effort, and we support similar efforts elsewhere. Along with the erosion control, we received a bonus on this effort. It brought together diverse and sometimes opposing groups which worked together toward a common objective. It dispells some of the mistrust and fosters further cooperative efforts which are absolutely essential if we are to successfully address wetland problems.

Last year, at the dedication of the new Cameron Prairie National Wildlife Refuge, which also borders the GIWW, Senator Johnston recommended that erosion problems be approached in a similar fashion. GICA and others were challenged to take action. Senator Johnston, we accept your challenge, the first steps have been taken and we thank you for your leadership in this effort.

GICA continues to support the Mouth of the Colorado River Project. Dale Miller, GICA's Chairman, is most familiar with this project and will submit a brief statement at the close of this presentation.

This fiscal year, the Corps of Engineers will complete its study and make recommendations on improvements to the GIWW between the Mississippi River and Galveston. When this study is completed and recommendations made, we must move forward in the implementation of these recommendations. We request that you provide preconstruction engineering and design funds commensurate with the Corps' capability to move this project forward. The need for improvements is evidenced by the increasing traffic. In 1989, traffic moving through the Calcasieu and Leland Bowman Locks on the busiest section of the GIWW grew to a record level with increases of 8% and 2% respectively over 1988.

Last August, I testified on behalf of ten national and regional ports and waterways organizations before the Senate Environment and Public Works Committee which was considering wetlands legislation. I believe the following statement from my testimony will help us keep a balanced perspective vis a vis providing water transportation facilities and protecting our wetlands. Referring to the juncture of the Mississippi River and the GIWW, "the major waterways crossroads on planet Earth," I said, "Succinctly stated, 25% of our nation's foreign and domestic waterborne commerce passes through an area containing 40% of our nation's remaining coastal wetlands." We are committed to responsible stewardship of both. Thank you.

PREPARED STATEMENT

Senator COCHRAN. Thank you very much, Mr. Behrhorst.

Mr. Miller, do you care to speak?

Mr. MILLER. No, Mr. Chairman; Mr. Behrhorst is our eloquent spokesman. I have nothing further to add.

Senator COCHRAN. Well, we have a statement here that we will put in the record attributed to you as chairman of the board, and we thank you for that.

Senator COCHRAN. It is always good to see you here.

Mr. MILLER. Thank you very much.

Senator COCHRAN. I remember your being here before, and we have a good working relationship with the board. I thank you for that.

I understand the precarious nature of this waterway for the barrier islands and the location. The staff was just pointing out to me some of the situation there and what a threat a hurricane would be to wipe out there, if it breached it, as you said, and it could cause substantial loss of investment and investment value.

We will look at this very carefully, and your being here will help us understand it a lot better. We thank you very much for attending the hearing.

Mr. BEHRHORST. Thank you very much, Senator Cochran.

[The statements follow:]

STATEMENT OF DALE MILLER

Mr. Chairman and Members of the Subcommittee:

I am Dale Miller, Chairman of the Board of the Gulf Intracoastal Canal Association. The statement of our Association is being presented by our President, Vernon Behrhorst of Louisiana, but I have asked the privilege of inserting into the record at this point a brief statement of the Port of Bay City Authority in Texas, in behalf of its navigation project, the Mouth of the Colorado River. I am doing so to obviate the necessity of their witnesses coming to Washington and consuming the time of the Subcommittee, when the merits of this project speak eloquently for themselves.

I suggest that the Subcommittee note that: It is a continuing project -- the appropriation that is sought is contained in the Budget, and conforms to the capability of the Corps of Engineers -- the conditions of local cooperation have been accepted -- the project is non-controversial, being supported by both developers and environmentalists.

Inasmuch as the project conforms to all such criteria, I respectfully request the Subcommittee to accord it favorable consideration.

PORT OF BAY CITY AUTHORITY

Mr. Chairman and Members of the Subcommittee:

To save the Subcommittee's valuable time, we have requested the Chairman or President of the Gulf Intracoastal Canal Association to present this statement.

The Mouth of the Colorado River project on the Texas Gulf Coast was authorized in Sec. 101 of the Rivers & Harbor Act of 1963. The years of waiting and planning were many, but actual construction was begun in 1983.

The U.S. Army Corps of Engineers has requested $1,000,000.00 for continued construction of the project, and this figure is contained in the Administration's Budget recommendations. We urge the Congress to appropriate the requested funds, so that the entire project can be expedited to completion. It is an important part of the Gulf Intracoastal Waterway system.

Senator Lloyd Bentsen and Representative Greg Laughlin are fully familiar with the project and are working diligently to bring it to completion.

RED BLUFF CHANNEL, TEXAS

STATEMENT OF DENNIS S. SIMONS, CHAIRMAN, JACKSON COUNTY NAVIGATION DISTRICT

ACCOMPANIED BY RALPH W. BURGESS, GENERAL MANAGER, JACKSON COUNTY NAVIGATION DISTRICT

Senator COCHRAN. Our last witness of this hearing is Dennis Simons, who is chairman of the Jackson County Navigation District, to discuss the Red Bluff Channel.

Mr. SIMONS. Mr. Chairman, I believe we are, in fact, the last, hopefully not the least.

Senator COCHRAN. Not at all.

Mr. SIMONS. But we will try to be the briefest.

Mr. Chairman and members of the committee, I am Dennis Simons, chairman of the Jackson County, Texas Navigation District, and I have with me Mr. Ralph Burgess, who is general manager of our navigation district.

First of all, I would like to say how much we appreciate the opportunity to appear before this subcommittee. Last year at this time, I appeared before the subcommittee requesting funds for the maintenance dredging of Red Bluff Channel. As a result of that request, the 1990 Federal budget included an amount of $250,000 for this project.

The U.S. Army Corps of Engineers now estimates that to complete the project, $400,000 will need to be included in the 1991 budget. The Corps has completed preliminary studies and surveys and plans to award bids for the project in June 1990. The additional funds would ensure that the project, once begun, could be continued through completion and would constitute a savings in the overall cost.

The bay portion of the channel was last dredged in 1981, and the river portion has not been dredged since about 1962. Portions of the channel are now as shallow as 18 inches, making it completely impassable by any commercial-type boat.

The Red Bluff Channel is authorized as a 6-foot by 100-foot channel and has direct access to the deep-draft Matagorda ship channel in the Gulf Intracoastal Waterway. There are several prime industrial sites along the channel with access to all necessary and important amenities with the exception of water transportation. These sites are within a few miles of the Formosa Plastic Company plant which has just recently begun construction on a $1.3 billion expansion project.

The only thing that seems to be hampering our ability to take advantage of the expected spinoff from this major project is the current condition of the Red Bluff Channel. We, therefore, ask your consideration in support of our request for the additional funding needed to complete the maintenance dredging project during the 1991 fiscal year.

Although this project is small in relation to other Corps projects, it is of utmost importance to the future economic well-being of our area.

I have also submitted for the consideration of the subcommittee my written statement, along with statements of other local entities, and I would ask that these be admitted to the record of the proceedings.

Senator COCHRAN. They will be included in the record at your request.

Mr. SIMONS. Thank you, Mr. Chairman. We again appreciate this opportunity.

Senator COCHRAN. We appreciate you and Mr. Burgess being here.

Why do you think no funds have been requested for maintenance in 1991?

Mr. SIMONS. In the Corps' budget?

Senator COCHRAN. Yes.

Mr. SIMONS. I have no idea why they haven't been. We were not given a reason why they were not.

Senator COCHRAN. But you did discuss it with them, I am sure, in advance.

Mr. SIMONS. We had discussed it, and initially we had thought or were told that they would include it in their budget, but they were not.

Senator COCHRAN. It just did not show up in there.

Mr. SIMONS. They did not show up in there, no, sir.

Senator COCHRAN. All right. We will check with them, too, and get their side of it. If there are any problems that they have with it, we need to know about them. But we appreciate your statement. It doesn't seem like that much, does it, $400,000?

Mr. SIMONS. Not a whole lot.

Senator COCHRAN. Thank you for coming and acquainting us with the issue and giving us all the information we will need to review this.

[The statements follow:]

STATEMENT OF DENNIS SIMONS

I am Dennis Simons, Chairman of the Jackson County Navigation District, Jackson County, Texas. I appreciate the opportunity to appear before this Committee concerning the additional funding of a maintenance dredging project on the Red Bluff Channel in Jackson and Calhoun Counties. In the 1990 Federal Budget the sum of $250,000.00 was allocated toward this project; this being half of the amount that we requested. The U. S. Army Corps of Engineers now estimates that the sum of $400,000.00 is needed in the 1991 Federal Budget to complete the project.

The Corps of Engineers has recently concluded preliminary studies and surveys on the project and has advised us that the dredging contract from funds in the 1990 Budget is scheduled to be awarded in June 1990. We would like to see that the project, when begun, will be able to continue through completion. The authorized channel is 20.2 miles long and has authorized dimensions of 6 feet in depth and 100 feet in width. It is a tributary channel to the 12 foot by 125 foot Port Lavaca Channel, through which it has access to the deep-draft Matagorda Ship Channel and the Gulf Intracoastal Waterway. The river portion of the channel has not had maintenance dredging performed on it since about 1962 and the Lavaca Bay segment since 1981. Portions of the channel are as shallow as 18", making the channel impassable by anything larger than small pleasure boats.

Due to the depressed local economy, there has been a tremendous effort to revive the economy through the development of the natural resources that are abundant in our part of the country. There are several large industrial sites located along the channel with access to rail and highway transportation, abundant natural gas and electrical power. In addition to these, the sites also have access to a 54" and a 36" fresh water pipeline running from Lake Texana, one of the largest available and uncommitted fresh water supplies along the Texas Gulf Coast.

The Jackson County Economic Development Coordinator has been in contact with many interested industries and site location groups concerning the industrial sites and has been told in every instance that the lack of access to the tracts by barge transportation makes the tracts undesirable by the industries that they represent. The sites are within a few miles of the Formosa Plastic Company plant site, including a $1.3 Billion expansion project which is now underway. The area near this plant is prime for development by industries that use products or by-products from Formosa or that make products that can be used by Formosa in their process.

The Jackson County Navigation District, as local sponsor for the project, respectfully requests your assistance in obtaining the additional funds needed to complete this project. We will gladly provide whatever assistance to the Corps of Engineers that is possible, including the procurement of necessary spoil disposal sites. Additionally, the Calhoun County Navigation District, which has jurisdiction over the 6.5 mile bay portion of the channel, has offered their full cooperation on the project. A statement in support of the project from the Calhoun County Navigation District is attached to this written statement, along with supporting statements from the Jackson County Commissioner's Court, Lavaca-Navidad River Authority, Jackson County Industrial Foundation, Jackson County Chamber of Commerce, Formosa Plastics Corporation, and Central Power and Light Company, for inclusion in the record of this hearing.

On behalf of the Jackson County Navigation District and the citizens of Jackson County, Texas, I would like to express my appreciation for the opportunity to appear before this committee in support of a project that is of extreme importance to our county and area.

STATEMENT OF LAVACA-NAVIDAD RIVER AUTHORITY

The Jackson County Navigation District has rightfully determined an urgent need for navigation on the lower Lavaca River in Jackson County. As you know, the economic situation in Jackson County is critical. However, this community is pulling together to improve the local economy by utilizing the County's natural assets; labor, water, oil, transportation, and land in attracting new industry. While highway and rail transportation is certainly adequate at the proposed industrial locations, water transport is sorely lacking and needed.

Jackson County offers the only large available and uncommitted water supply west of Houston which is so important in drought vulnerable Texas for industrial needs. Also to be considered are State and Federal clean air standards, which probably will preclude any significant amount of industrial expansion, especially petrochemical, in the existing large industrial areas. Accordingly, new open areas should be developed near available resources.

The Board of Directors of the Lavaca-Navidad River Authority respectfully submits the attached resolution, unanimously passed, requesting that funds be appropriated for the U.S. Army Corps of Engineers to resume maintenance of the authorized Red Bluff Channel. Please be advised the Authority is willing to assist the Jackson County Navigation District, and the U.S. Army Corps of Engineers any way possible to promote this effort.

RESOLUTION SUPPORTING THE EFFORTS OF THE JACKSON COUNTY NAVIGATION DISTRICT IN MAINTENANCE DREDGING OF THE RED BLUFF CHANNEL

WHEREAS, the Lavaca-Navidad River Authority is a body politic and corporate created and existing pursuant to Article XVI, Section 59 of the Texas Constitution and a series of acts formerly compiled as Article 8280-131, Vernon's Annotated Texas Civil Statutes, and is authorized and empowered under the Texas Constitution and the Act to control, store, preserve and distribute the waters of the rivers and streams of Jackson County, Texas, for domestic, municipal, flood control, irrigation, and other useful purposes; and to aid in the protection and promotion of navigation on the navigable waters.

WHEREAS, the Authority recognizes the vital need for water borne transportation in Jackson County to insure local stability and continued growth and development; and

WHEREAS, the Red Bluff Channel is authorized, but presently not usable due to the lack of maintenance dredging.

NOW THEREFORE BE IT RESOLVED, that the Lavaca-Navidad River Authority supports the efforts of the Jackson County Navigation District in obtaining funding for completion of maintenance dredging of the Lavaca River Channel in an attempt to accommodate the needs of industrial development in Jackson County and neighboring areas.

Approved by the Board of Directors this the 8th day of March, 1990.

STATEMENT OF THE CALHOUN COUNTY NAVIGATION DISTRICT

The Congress of the United States recently appropriated approximately $ 250,000.00 for the continued maintenance of Red Bluff Channel from Lavaca Bay in Calhoun County, Texas to Lolita, Texas. Additionally, some $ 50,000.00 was appropriated to commence a study for the deepening and widening of that channel to the same dimensions as the Gulf Intracoastal Waterway.

Maintenance dredging on the Red Bluff Channel is scheduled to commence shortly. The amount provided by Congress thus far will not cover the entire maintenance dredging project and will require approximately $ 400,000.00 more.

Chairman Johnston, our area of Texas is pulling itself out the economic slump by its own bootstraps. We currently have foreign investment building a $ 1.3 Billion petrochemical complex near the Red Bluff Channel. We are in the feasibility study phase to deepen our existing 36 foot ship channel to 42 feet or deeper. The Jackson County Navigation District project to maintain and potentially deepen the Red Bluff waterway synergistically fits into a multi-county effort to economically develop and diversify.

Accordingly, the Calhoun County Navigation District strongly supports the request of the Jackson County Navigation District to have the Congress of the United States provide the additional funding necessary to complete the maintenance dredging project of the Red Bulff Channel. We appreciate your support in the past and look forward to that continued support for the future. I remain.

STATEMENT OF LARRY G. PEYTON, PORT LAVACA, TX

The maintenance of inland water transportation systems with access to the Gulf of Mexico, like the Red Bluff Channel in Jackson County, are vital for continued industrial development in South Texas. Formosa Plastics Corporation would not have located in this area if it were not for access to deep water at Point Comfort.

Recently, Formosa contracted with the Lavaca-Navidad River Authority for a 15-mile, 54-inch pipeline to supply fresh water for our $1.3 billion expansion project in Point Comfort. This pipeline parallels the Red Bluff Channel and will provide development opportunities for other industry requiring fresh water.

The pipeline and the Red Bluff Channel could be the catalyst that spawns other developments in a region that has suffered a stagnant economy for several years. Therefore, I encourage you to support the maintenance dredging of the Red Bluff Channel in 1991.

STATEMENT OF JOHN CRUTCHFIELD, MANAGER, ECONOMIC DEVELOPMENT, CENTRAL POWER & LIGHT CO.

This is to endorse Jackson County Navigation District's request to have funds placed in the 1991 Federal Budget for the completion of maintenance dredging of Red Bluff Channel.

Jackson County has mounted a herculean effort to turn it's economic fortunes around after severe set-backs in the petroleum and agricultural sectors of the economy. A local, non-profit, community economic development foundation has develcped and is marketing petrochemical and refinery sites along Red Bluff Channel. The sites have access to abundant electric power, industrial water, natural gas and rail transportation. Maintenance of the channel at the authorized depth of 6 foot is essential to the marketability of these sites. Since petrochemical/refinery sites are in dwindling supply, we are confident that Jackson County is strategically situated to assist these vital industries and, in the process, rejuvenate its economy.

We solicit your endorsement of this self-help effort by your active support of the inclusion of this item in the 1991 Federal Budget. We are confident that this partnership will result in economic expansion beneficial to all. Thank you also for the leadership you are providing to this important subcommittee.

STATEMENT OF JACKSON COUNTY CHAMBER OF COMMERCE AND AGRICULTURE

Economic development in Jackson County is a major priority of the Jackson County Chamber of Commerce. An aggressive campaign has been initiated to attract industry in our area.

The Chamber is aware you played a major role in helping the Jackson County Navigation District receive funding in the 1990 Federal Budget for a feasibility study of deepening Red Bluff Channel and for maintenance. It is a start in helping Jackson County diversify the economic base.

The Jackson County Chamber of Commerce respectfully requests your assistance again in obtaining the necessary funds in the 1991 Federal Budget for the completion of the Maintenance Dredging Project at Red Bluff Channel.

Mr. Dennis Simons, chairman of the Jackson County Navigation District, has requested a hearing before your subcommittee the later part of March to ask that funds be made available in the 1991 budget to complete the Maintenance Dredging Project of the Red Bluff Channel in Jackson County, Texas.

Through your leadership and assistance $250,000.00 was made available for this project in the 1990 budget; however, the Corps of Engineers at Galveston, Texas has stated that an additional $400,000.00 will be needed to complete the project.

The citizens of Jackson County are doing everything humanly possible to attract industry to our county. Sites are available on the Lavaca River (Red Bluff Channel) but the completion of the Maintenance Dredging Project is needed in order to have barge transportation available. These sites are adjacent to Formosa Plastics 1.3 billion dollar plant now under construction.

Your assistance in this matter would certainly be appreciated.

STATEMENT OF JACKSON COUNTY INDUSTRIAL FOUNDATION, INC.

This letter is to endorse the Jackson County Navigation District's efforts to secure funding for the completion of maintenance dredging of Red Bluff Channel in the 1991 Federal Budget.

Jackson County has mounted an aggressive economic development program in order to diversify our economy through petrochemical marketing along Red Bluff Channel. One of the major drawbacks of the channel is the width and depth, which are not suitable for barge traffic.

On the upside is the Formosa Plastics Corporation expansion. Recently, Formosa contracted with the Lavaca-Navidad River Authority for a 15 mile pipline to supply fresh water to the plant. The pipeline parallels the Red Bluff Channel and we feel it will provide development opportunities for other industries.

The Board of Directors of the Jackson County Industrial Foundation respectfully requests your assistance in obtaining the necessary funds in the 1991 Federal Budget.

STATEMENT OF LARKIN T. THEDFORD, COUNTY JUDGE, JACKSON COUNTY, TX

Last year the Appropriations Committee appropriated $250,000.00 in regards to the above project.

According to the information that has been submitted to me, there is a need for $400,000.00 for the next appropriation year in order to complete the project as submitted.

Due to the fact that Formosa has started and hopes to complete its One Billion Dollar plus project within the next year or so, we certainly feel that this is an important project to Jackson County. We anticipate that several satellite type of industries will spring forth as a result of this tremendous large industrial facility that is taking place.

Your consideration in using your efforts to secure this additional $400,000.00 appropriation will be appreciated.

SUBCOMMITTEE RECESS

Senator Cochran. The subcommittee will now stand in recess until April 4 at 10 a.m.

[Whereupon, at 2:48 p.m., Thursday, March 29, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1991

WEDNESDAY, APRIL 4, 1990

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:50 a.m., in room SD–192, Dirksen Senate Office Building, Hon. Harry Reid presiding.

Present: Senators Johnston, Reid, and Domenici; also present: Senators Kerrey, Exon, and Wilson.

NONDEPARTMENTAL WITNESSES

HEARING PROCEDURES

Senator REID. The subcommittee will come to order.

I want to welcome each of you here today. We have a large number of witnesses. In accordance with our notification to each of the witnesses, it will take some self-restraint on the part of everyone to hold oral testimony to a minimum in order that all of you who have requested an opportunity to testify can be heard.

I ask that the detailed prepared statement that each of you has worked out carefully be submitted for the record, where it will be carefully reviewed. Then, if each witness will summarize or highlight the important points of his oral testimony, it would be most helpful.

We are going to do our best to maintain the time schedule that has been established and will indicate to you when your time is up. The first witness will deal with thermal energy storage research, as will the second witness. The first witness is Uwe Rockenfeller and the second witness is Dr. Everett Brett. Will the two witnesses come forward, please?

I have just been told that I have pronounced your name wrong, but it is not the first time; right?

Dr. ROCKENFELLER. That's all right.

Senator REID. Your name is Uwe? It is not spelled that way, though, is it?

Dr. ROCKENFELLER. No; it is not.

Senator REID. Mr. Rockenfeller, you may proceed.

THERMAL ENERGY STORAGE RESEARCH

STATEMENT OF UWE ROCKENFELLER, PRESIDENT, ROCKY RESEARCH CORP., BOULDER CITY, NV

Dr. ROCKENFELLER. I would like to thank you, first, for the opportunity to speak for the thermal energy storage program in front of this committee. While my written testimony addresses all three areas of the thermal energy storage program, which is the seasonal program, industrial and diurnal thermal storage program, and recommends funding at a level of $5.5 million in total, which is in accordance with the recommendations made by the American Society of Mechanical Engineers, the International Thermal Storage Advisory Council, as well as U.S. industry in this area, my oral testimony shall be confined to an example in the diurnal industrial area to highlight the benefits of the program to the United States on an exemplary basis.

Several years ago, the U.S. Department of Energy initiated a number of very promising diurnal and industrial energy storage projects, and they really show a dual benefit to the United States. On the one side, they are alleviating environmental problems by reducing the usage of chlorofluorocarbons, by shifting load from on-peak to off-peak, thereby avoiding the construction of new, inefficient, peak powerplants and allow for the utilization of clean coal combustion and base powerplants, and they have an energy conservation effect on top of it.

The second advantage, however, which I think is just as important, is that those projects result in high-tech equipment development, which will put the United States in a position to have a tremendous export potential on those products that are going to be in demand in every industrialized nation in the world.

My example I like to make is on our complex compound technology that we are developing. We have developed a system that is capable of storing thermal energy storage at refrigeration levels, temperatures of about minus 20 to minus 40 degrees ° F. Such systems are of interest to almost any food processing plant worldwide, to very many chemical processing plants, and to refrigerated warehouses. It will allow them to use off-peak power, which is cheap and clean, and reduce the process cost. It will reduce the amount of chlorofluorocarbons used in air-conditioning and refrigeration, and in addition it will be an excellent export product line for U.S. manufacturers.

The U.S. refrigeration industry, however, is composed of a large number of small companies with about $10 to $30 million in sales. While this is a very healthy corporate environment, it also poses the risk that these companies are not capable of really taking forward a revolutionary new technology from A to Z without some help.

We teamed up with a very reknowned company, Standard Refrigeration, on our particular project to develop this new product for a worldwide market. The company committed themselves to develop all the manufacturing processes and tools necessary. The DOE commitment to support the necessary chemical research and development for process optimization, stability, and reliability, however, is at risk if the budget for thermal energy storage will be on a similar scale as it was last year. Our competition is in France and Japan. We are currently ahead of the competition. As a matter of fact, we have four times the power density, while our system is only one-third of the size of what our competitors are doing. Our competitors are, however, spending 10 times as much research money on the subject as we are, and we would like to stay ahead of it, if possible.

The potential for the Government is maybe best shown with a market survey that was done by Industrial Refrigeration, Inc. They looked at this particular technology and estimated an annual export only of $600 million for this particular product possible once the product matured in the United States. If we make a quick investing calculation on that and say that only one-third of that volume will materialize, we are down to a $200 million market. The average profit range in the refrigeration industry is 12-percent gross profit. We will need $24 million profit, and at a corporate income tax of 33 percent average, we are looking at an $8 million annual return for the Government, as opposed to the investment of $450,000 for 2 years to finish the development. The complex compound development, however, is only one example of the thermal energy storage program.

Other, very promising, technologies are also under development. I would just like to mention a couple. A thermal energy storage wallboard is currently under development, which is a construction material used in buildings to make use of solar energy and reduce the air-conditioning need and, therefore, also the CFC usage—in my opinion, also a great export product. A face change material, extracting heat from flue gas, is another very promising project, which is currently in the field test process at Mississippi State University and under modeling at the University of Tennessee, which is applicable to almost any chemical and steel process in the world.

In conclusion, I would like to recommend to go ahead with the funding, as also recommended by ASME, ITSAC, and the U.S. thermal storage industry to support the program at a level of a total of $5.5 million, with a breakdown of $2.5 million in seasonal, $2 million in industrial, and $1 million in diurnal thermal storage; and to try to continue this at least for 2 or 3 years in order to complete these ongoing very promising projects. Thank you.

[The statement follows:]

STATEMENT OF DR. UWE ROCKENFELLER

For several years, the U.S. Department of Energy has sponsored research aimed at the development of thermal energy storage technologies that, applied to commercial and residential buildings, could make a major improvement in the efficiency of heating and cooling systems; applied to industry, could improve the energy efficiency of batch processes by reducing thermal emissions; and, applied to baseload power plants, could facilitate load leveling, thereby improving the efficiency of electricity generation. Particularly over the last two years, the congressional budget appropriation for thermal energy storage research has declined drastically, placing development of those technologies that were initiated by the U.S. Department of Energy and are now at the threshold of commercialization at grave risk.

As president of Rocky Research, a company intimately familiar with the potential that mature thermal energy storage technologies hold for the nation, I strongly endorse continuation of thermal energy storage research at a level of $5.5 million annually. This level is in basic agreement with the recommendations from a thorough peer review of the DOE thermal energy storage program conducted one year ago by the American Society of Mechanical Engineers. It follows recommendations of major thermal storage equipment manufacturers and is also in line with thermal energy storage program funding in prior fiscal years. It is further recommended that the thermal energy storage program continue research in the following three areas:

Industrial Thermal Energy Storage: through Oak Ridge National Laboratory	$2.0 million
Diurnal Thermal Energy Storage: through Oak Ridge National Laboratory	$1.0 million
Seasonal Thermal Energy Storage: through Pacific Northwest Laboratories.	$2.5 million

I am aware that this is not an insignificant level of support for a federal research program; nevertheless, the above recommendation is prudent, reasonable and, in the long term, will leverage benefits to the nation that are far beyond the resources requested. To understand what these benefits are requires that we review the energy-related issues currently facing the United States and the role that thermal energy storage technologies can play in resolving these issues.

From 1975 to 1987, total energy consumption of the United States increased by about 8% - a relatively small amount. However, the recent growth rate in energy consumption, particularly of oil, is alarming. Energy consumption by the year 2000 is expected to increase by 13%, and more significantly, a substantial portion of the increase will be provided by imported fuel.

Growing Oil Imports

Despite record oil production in Alaska, U.S. oil output reached the lowest level in a decade at the end of 1987; production dropped a full 10% from 1986 to 1987. Oil imports, on the other hand, have risen 29% in the last two years since OPEC effected price cuts. In 1987, the United States imported oil costing approximately $50 billion (equivalent to 25% of our foreign trade imbalance). The proportion of oil imported to the United States from the Middle East increased from 17% in 1986 to 22% in 1987. The Middle East holds 75% of the world's proven reserves, most of which can be produced at very low costs. It is estimated that by 1995 the United States will be importing 50% of its oil and over 60% by the year 2000. The very real potential exists for deja vu with rapidly escalating fuel prices and shortages caused by supply disruptions.

Growing Electricity Demand

Electricity is a large and growing sector of our nation's energy infrastructure. During the period from 1975 to 1987, total energy consumption grew by 2%, while electric consumption grew by 42%. Electricity now comprises over half of the primary energy consumption in the United States outside of transportation. While primary energy consumption has remained relatively stagnant, growth in electricity has kept pace with growth in the GNP and is a key element in making the United States industrial complex competitive in the global marketplace.

As electricity use has increased, the nature of its use has changed. Peak electrical demand particularly during the summer has increased disproportionately with total electrical consumption primarily as a result of growth in the information and service sectors, requiring more air conditioned office buildings. Growth in residential air conditioning has expanded causing utilities that at one time were "winter peaking" to become "summer peaking."

A number of utilities have continued to experience load growth far in excess of expectations. While many electric utilities predicted growth rates of 1% to 2%, most have experienced growth rates above this value. Northeast utilities have been experiencing load growth at 4% to 5% annually. In the summer of 1988, two Northeast utilities and our local Southwest utility experienced record loads with peak demands 10% greater than in 1987, prompting rolling brownouts. Most electric utilities have already employed time-of-day and demand charge rate structures to encourage off-peak use. It is expected that more utilities will employ such rate structures within the next few years.

Growing Environmental Concern

Men's impact on the environment reached national attention in the late 1960s, prompting the establishment of the Environmental Protection Agency as a regulatory body. The relative regulatory stability in the 1980s is, however, yielding to new environmental forces. Early concern over the toxic waste dumps is now being extended to acid rain, global warming, and erosion of the ozone layer. These impacts are fundamentally different from those prompting earlier action because of their international consequences. In coal-fired power plants, scrubbers to remove SO_2 combined with use of lower sulfur coal, resulted in a nearly 30% reduction in SO_2 emissions between 1973 and 1985, while coal consumption increased 45%. It is now estimated that over one-third of acid rain is caused by NO_x emissions derived not only from coal combustion but from combustion of oil for transportation and natural gas.

Ozone depletion is attributed largely to release of chlorofluorocarbons (CFCs) commonly used in packaging materials, as refrigerants, propellants in spray cans, and insulation. DuPont, the primary manufacturer of CFC, has pledged to eliminate their production by the year 2000 and is spending $50 million to develop substitutes. Other organizations are also active in developing substitutes.

Global warming has been occurring for the last two centuries but has accelerated in the last several decades. It is speculated that global warming is due to the "greenhouse effect" by which predominance of CO_2, NO_x, CH_4, and CFC gases in the atmosphere reduce thermal radiation to space. Carbon dioxide is the largest contributor. Man released 5.5 billion tons of CO_2 to the atmosphere in 1986, with 25% of this occurring in the United States. Carbon dioxide emissions are due primarily to combustion of fossil resources (coal, oil, and natural gas), although deforestation for fuel has the double effect of producing CO_2 while reducing natural means for decomposing CO_2.

Benefits through Thermal Energy Storage

Thermal energy storage constitutes a range of technologies in which heat (or cool) that is provided either naturally or very efficiently at one time, can be stored in a material. When the heat (or cool) is needed, it is simply removed to meet the demand. Obvious examples include the seasonal storage of winter chill for use during summer; capture, storage and later reuse of heat from industrial flue gas and most importantly the diurnal thermal storage for air conditioning and refrigeration. Suitably developed and implemented, thermal energy storage systems shift existing energy demand from expensive on-peak to inexpensive and efficient off-peak periods, and reduce the consumption of primary energy for heating and cooling, thereby reducing the impact of energy consumption on the environment and improving the competitive position of the United States in world markets.

Environmental Improvement

Widespread use of thermal storage can have a beneficial impact on all three aspects of global climatic change. The use of less primary energy (i.e., greater use of renewable energy or improved energy efficiency) is a direct result of application of some thermal storage technologies, notably waste heat thermal storage in industry and use of winter chill to meet industrial and space cooling demands. Space cooling demands can be met without increased use of chlorofluorocarbon refrigerants through the application of seasonal winter chill storage in aquifers and incorporation of advanced refrigeration systems based on atmospherically benign refrigerants such as ammonia or use of smaller quantities synthetic refrigerants. Utilization of thermal storage systems for load leveling at the power plant or at the customer drastically reduces peak power consumption and contributes to wider use of some clean coal combustion technologies and reliance on other highly efficient base-load plants, such as nuclear, that enable reduction of SO_2, NO_x, and CO_2 emissions.

Product Competitiveness

During the last several years, American manufacturers have made impressive gains in improving the energy efficiency of their production facilities. However, U.S. industry remains far less efficient than most of its trading partners. Of its major international competitors, only Canada has a higher energy requirement per thousand dollars of gross domestic product than the United States. Japan, Korea, and Taiwan have substantially lower energy requirements per one thousand dollars of gross domestic product.

By applying thermal energy storage technologies for the capture and reuse of waste heat or using thermal storage as a means of converting batch processes into continuous ones, the efficiency of many manufacturing processes can be substantially improved. For example, the cost of energy used to produce a ton of steel is between $60 and $70/ton. If thermal energy storage applications can save 10% of this total, this would reduce the annual cost of steel production in the United States by approximately $400 to $500 million/year. These savings can be used to make this product more competitive in world markets.

In addition, high-tech thermal storage products are currently being developed by my company and others under the diurnal thermal storage program and are in demand in almost all industrialized nations. Successful development of such products will render an excellent export potential to the US worth in excess of 1 billion dollars per year.

Improved Energy Security

Our nation's electric utilities are threatened by the prospect of electricity supply constraints in the 1990s. Estimates have shown that by the year 2000 the nation will need approximately 100GW of new capacity (beyond plants now under construction) to maintain adequate electricity supplies. The current cost for construction of new power plants is approximately $1 billion/GW. The use of demand-side thermal storage and seasonal thermal storage has been estimated to have a potential capacity impact of 3.5 GW by the year 2000.

Trends in net oil imports are again approaching their 1973-1975 levels. The percentage of oil imported from OPEC producing countries has crept up to its 1973 level of between 50%-55% of total oil imports. Electricity capacity constraints in the 1990s could mean continued dependence on oil-fired generation over the next decade thus exacerbating the dependence of the United States economy on imported oil supplies. Through the more productive use of utility capacity through diurnal and seasonal load management, thermal energy storage helps to alleviate U.S. vulnerability to oil imports.

Therefore, research in thermal energy storage for diurnal, industrial, and seasonal applications can produce results that have a major, beneficial impact on the global environment, on U.S. industrial competitiveness (including high-tech products for export), and on the future energy security of the nation. For these reasons, a federal program of long-range research and development that is complementary to any private, market-driven TES implementation is essential.

The Thermal Energy Storage Program

The current Thermal Energy Storage Program is organized to develop diurnal, industrial, and seasonal TES technologies to support energy conservation, electrical load management, and expanded use of renewables.

There are projects within each area of the program that have made significant progress towards producing thermal storage technologies that are currently attractive to U.S. industry provided key technical issues are resolved. A major project in the diurnal thermal storage area involves the incorporation of phase change materials (materials that freeze and melt) into conventional building materials for the purpose of enhanced energy storage capacity. Until recently, the technical and economic issues associated with incorporating phase change materials into building components have been insurmountable. The building material concept currently being studied at the University of Dayton Research Institute uses a phase change material which has been added to gypsum wallboard - a material in widespread use in both residential and commercial buildings. The phase change material wallboard used in wood frame construction increases the thermal mass in a low-mass structure and enhances the thermal storage capability of the interiors of larger buildings for increased comfort and reduced heating (or cooling) demand. With support through Oak Ridge National Laboratory's diurnal thermal storage program, the University of Dayton Research Institute has developed methods of incorporating phase change materials into the gypsum wet mix prior to wallboard manufacture as well as techniques that can be applied to manufactured wallboard. The processes by which the phase change materials are introduced into the wallboard have been patented, and significant interest has been shown by the two major U.S. suppliers of gypsum wallboard, one of whom is performing full-scale testing in the laboratory. There are issues yet to be resolved particularly in the area of modelling to determine the reductions in energy use for various building types and locations. Unfortunately, due to decreased congressional support of the diurnal thermal energy storage program in prior years, resolution of the technical problems associated with the wallboard concept cannot be addressed. I should point out that Japan has licensed an advanced wallboard technology similar to that being developed by DOE.

A second technology area for the DOE thermal energy storage program has been the invention and initial development of an advanced high temperature composite heat storage material for capture of heat energy from industrial flue gas. The material is intended to be used in packed bed recuperators in which heat that is ordinarily wasted during one stage of an industrial process can be saved and applied when needed at a later time. The result is an overall reduction in energy use. Studies have identified applications for heat recuperator systems in industries such as glass, steel, and ceramics manufacture - all requiring periodic processes. The material consists of ceramic composite, part of which can melt thereby storing large quantities of heat, while the remainder of the material maintains the shape. The result is a unique material that "melts," yet remains a solid. The technology was developed by the Institute of Gas Technology through the industrial thermal storage program and was successfully carried through laboratory testing. Due to congressional budget reductions, development of the technology has not been completed. At the present time, a facility for testing the composite pellets in a stream of flue gas is being designed and constructed at Mississippi State University. Continuation of the testing phase of the project into fiscal 1991 will depend on the funding resources made available. The main point is that due to a lack of resources further development and improvement of the composite technology in the United States has been halted. However, in an $11 million program in West Germany, this composite technology that was invented in the United States through the DOE program is being carried forward. The German research laboratory DLR supported by the German Ministry for Research is working with Didier-Werke AG to produce the composite technology for recuperators in the steel industry. Without resources to complete the development of this technology in the United States, the probability of our importing not only this storage system, but other technologies related to the composite system from outside is extremely high since there is no existing replacement technology.

For several years, the diurnal thermal storage program has supported research to develop thermal storage systems based on materials that complex with ammonia gas to store thermal energy. My company, Rocky Research, a small but growing R&D company in Boulder City, Nevada, was funded by the thermal storage program to develop a solid-gas chemisorption system for thermal storage in the temperature range -40°F to +20°F. All refrigerated warehouses, food processing, and many chemical processing plants use refrigeration in this temperature range. Currently available technology, however, does not allow for use of off-peak night time electricity but uses expensive on-peak daytime power. Thus these industries face high utility cost (up to 40% of product cost) and, due to their large demand, constitute a daytime power shortage problem to utilities.

Our research and development efforts in the past two years have been very successful. We identified coordinative complex compounds which are ideal storage media for two of the most needed temperature levels "i.e. +20°F and -20°F." No other technology is currently on the market or even under development that can provide acceptable economics for this need except for French and Japanese attempts to copy our technology. Eighteen months ago we succeeded in verifying a new heat and mass transfer method for solid-gas reactions which yields power densities of more than 5 times the record rates of Japanese and European competition. Further refinement led to a storage volume reduction of more than 75% compared to our status just one year ago.

According to a market estimate provided by Industrial Refrigeration, Inc. the market potential for this technology is estimated at $150,000,000/year for the domestic market and $600,000,000/year for export. This assessment as well as our technical progress led to the involvement of Standard Refrigeration, Inc. as a cost sharing manufacturing partner.

United States manufacturers of thermal storage products constitute a new and fast growing industry, which developed around the electric energy generation shortage. However, almost all of the manufacturers are--small to medium--size companies or divisions (3 to 5 million dollar annual sales). While this constitutes a healthy background for productive growth, current resources for research and development are limited. This is a major detriment compared to heavily subsidized foreign developments (Japan, Europe) on the world market. Our complex compound technology is on the threshold of commercialization. While Standard Refrigeration, Inc. is currently investing money to resolve manufacturing process issues; product liability, and safety related development tasks, such as corrosion analysis, material compatibility analyses as well as process optimization and long term stability are research issues which need to be addressed and are outside the funding resources of Standard Refrigeration. We anticipate a need of $450,000 per/year for a period of two years to resolve these issues. Lack of DOE funding, as experienced in the past twelve months, will freeze the development and allow foreign competition to catch up and eventually surpass the U.S. technology level voiding export potential and calling for increased import of products.

While we realize that a total of $900,000 is a significant commitment for the government if directed to one specific technology, the return on investment for the government via increased product sales and associated corporate income tax payments is likely to be excellent. Even if only one third of the export projections can be realized within 4 years, the export of $200,000,000/year at an expected gross profit margin of 12% (industry standard) and an average income tax rate of 33% will generate almost $8,000,000 additional income tax annually. This calculation is not accounting for any domestic sales or related component business since portions of such product revenues must be considered replacement sales and such replacement portions are difficult to predict. In any case some additional tax flow will be generated by domestic business leading to a potential new tax income in excess of $10,000,000/year for the U.S. Government.

Supporting information from industry and the International Thermal Storage Advisory Council is enclosed in the appendix.

In addition to these near-term projects at the point of commercialization and for which funding resources are needed, there is research underway to address more fundamental technical issues that impact the development and application of thermal storage systems. As an example, the University of Tennessee is working on a mathematical model of a packed bed regenerator that is coupled to a larger computer model of a periodic brick-making plant. The objective of this project is to determine how best to incorporate thermal storage into a specific industrial process. Their work has produced an optimization procedure that can be prepared as software for use on a microcomputer to assist in the design and application of thermal storage.

Through the seasonal portion of the thermal energy storage program, aquifers are being investigated for use as reservoirs for heat or cool storage. The aquifers are charged with chilled (or hot) water during seasonally favorable periods and discharged as much as six months later to meet a heating or cooling load. More than diurnal and industrial thermal energy storage applications, seasonal applications using aquifers involve significant environmental and institutional concerns. Research must be continued to address these issues as well as technical issues associated with efficient utilization of the subsurface reservoir. Seasonal thermal storage in aquifers combines geohydrology, thermal storage, and the applied fields of space heating and cooling. To support this merger, the DOE program is performing large field tests to determine the performance of aquifers used as the thermal storage volume. Due to a lack of knowledge concerning the chemical and physical behavior of aquifers used for heating or cooling, numerical models are being developed to aid in the design and evaluation of aquifer systems. These models range from simple nomographs to complex (multidimensional) and detailed geohydraulic and geochemical codes that describe the relationship between subsurface water movement and heat transfer from injection to withdrawal and changes due to dissolution of chemicals in the aquifer. Field evaluations of aquifer storage systems are being performed at the University of Minnesota for heat storage and at the University of Alabama for chill storage. The University of Alabama system uses a cooling tower to chill water from the aquifer during winter; the chilled water is recirculated to fan coil units for cooling a student recreation center during the summer. This system-an early installation-has been hampered by regional flow in the aquifer. However, computer simulations conducted to select a pumping and selective withdrawal schedule were implemented and found to raise the fraction of chill energy recovered from about 50% to 70%. The University of Minnesota system has been operated through six cycles at injection temperatures up to 150°C. Work is also underway to support the design and operation of new aquifer cool storage systems and to monitor their performance in meeting the cooling loads of large buildings.

In conclusion, the DOE Thermal Energy Storage Program has made a major contribution towards the development of technologies that can make a significant contribution to resolution of energy-related issues facing the nation. At present time, there are several major thermal storage developments that are near the point of acceptance and commercialization by industry. I am concerned that, without a continuation of DOE support at a reasonable level through the thermal energy storage program, we will fail to bring these developments to fruition in the United States where they were begun; they will join the list of those technologies that come to us as mature products from foreign shores. I encourage the committee to act favorably regarding the fiscal year 1991 recommendations proposed in my testimony.

APPENDIX

ENDORSEMENT LETTERS FROM U.S. INDUSTRY

LETTER FROM BALTIMORE AIRCOIL CO.

July 11, 1987

Dr. Uwe Rockenfeller
ROCKY RESEARCH
674 Wells Road
P.O. Box 1096
Boulder City, Nevada 89005

Dear Dr. Rockenfeller:

I wish to congratulate you on your progress with solid/ vapor and liquid/ vapor sorption technologies. Although there are a number of viable commercial applications for these unique concepts, the area of significant breakthrough and outstanding product potential is cool thermal storage.

Notwithstanding years of private and public funding, the technologies of choice have all converged to ice as the most cost effective. Although the products currently on the market are marginally different in the way the ice is formed, stored, and thermally delivered upon demand, they all suffer from the same shortcomings that have prevented cool thermal storage from becoming commonplace in the construction industry. They are all large, inefficient, and costly.

BAC believes the technologies being developed at Rocky Research will have a profound effect upon the current product limitations and can become commercial realities within a very short time frame. We have demonstrated our beliefs with cash funding to support continued progress. To facilitate rapid transfer of your technologies into products for wide U.S. application and export we have contributed our own engineering resources and will continue to work closely with your company.

The Rocky Research concepts are the only non-marginal, practical advancements being addressed in the U.S. research arena. We therefore wish you the best of luck in conveying to the Senate Appropriation Committee the need for DOE funding in commercial thermal storage to further support and accelerate the work.

Regards,

BILL OSBORNE

William T. Osborne
Director
New Product and Business Devel.

LETTER FROM INDUSTRIAL REFRIGERATION

12 July 1989

Uwe Rockenfeller, Ph.D.
Rocky Research
P.O. Box 1086
Boulder City, NV 89005

Re: Ammoniated Complex Compounds
– Thermal Energy Storage

Dear Uwe:

I have been talking to all of my clients about *Ammoniated Complex Compound Thermal Energy Storage*. Without any field experience or installations to refer them to or prices, it is difficult to get committments, but I certainly have been getting a lot of interest.

Chuck Budniks of Dominick's Finer Foods, A Chicago grocery distribution warehouse operation tells me they could use as much as 6300 ton-hours at +20°F SST, 7500 ton-hours at -20°F SST, and perhaps a 1000 ton-hours at -40°F SST. It wold reduce their electrical demand about 1800 KW and save them about $30,000 per month on the electric bill in the summer and about $18,000 per month in the winter time. There are similiar installations in the Chicago area at Certified Foods, Jewel, Hammond Columbia, Mercantile Warehouses, Super Value and Eagle Foods, all about the same size and type of business.

Dan O'Keefe of the Oscar Mayer Corporate Engineering staff, Madison, WI tells me that the Madison plant really does not need thermal storage because they are buying electric power for $0.04/KWH interruptible, take-or-pay contract and no demand charges. But their plants in Duluth, MN; Columbia, MO; Kirksville, MO; Des Moines, IA; West Liberty, IA; the Los Angeles area would all be interested and each could use at least 4000 ton-hours at +20°F SST because of high demand charges and time-of-use rates and probably more than that, but an operating survey would have to be made. Without a proven product, however, Oscar Mayer is going to do little more than indicate an interest.

Steve Conway of Clorox Foods (Moore's, Hidden Valley Ranch, K.C. Masterpiece, etc.) tells me that their Ft. Atkinson, WI plant could use as much as 7000 ton-hours of thermal energy storage at -40°F SST to supplement their processed vegetable freezing tunnels plus a small storage system at -20°F of about 1000 ton-hors for their holding freezers.

Scott Sovereign of Bil-Mar Foods (Sara Lee), Zeeland, MI has a need for as much as 10,000 ton-hours at -45°F SST, 5000 ton-hours at -20°F SST, and 10,000 tn-hours at +20°F SST. Scott is willing and ready to participate in the field testing and prototyping of the thermal energy storage systems.

David Smith, Vroman Foods (General Mills), Toledo, OH is interested. Dave could use 10,000 ton-hours at -50°F SST and would consider participating in an experiment.

Summary

There is a very large need for ammoniated complex compound thermal energy storage to be retrofitted into existing large industrial food plant ammonia refrigeration systems. Getting the product on the market would benefit the electric utility companies by reducing their peak demand and improving their load factors year around, not just in the summer. This in turn would benefit the generall public by better utilizing fuel resources, generating and distribution capacity. Thus maintaining reasonable electric rates in an area. It would also reduce the food producers costs, lowering the price of foods a bit in the supermarket, increasing the competiveness of a plant, increasing sales and thereby supporting local agriculture and employeeing more plant workers. Everyone wins.

The Market

Every food processing plant, grocery distribution warehouse, dairy, ice plant, beverage plant, juice plant etc. etc. is a candidate. They are a better candidate where the electric rates have high demand and a time-of-use energy rate, but these rates are increasing all the time across the country.

If you had a product in successful operation in a plant with two years experience today, you could sell 20,000 ton hours of storage in the next twelve months or perhaps $5,000,000 in sales. Once on the market I would expect sales to double every year for at least the first five years.

There is a marketing problem. The normal channels of distribution do not seem to be interested in an unproven product or doing any market development. To be successful, I believe your are going to have to go around the manufactures representatives and the Industrial refrigeration contractors and sell directly to the end user. Something like Copeland had to do with the discus compressor.

The end user wants and needs the product. Please, as soon as you have something that may work get it into the field for testing and demonstration. In this market, failures on the first try are acceptable, and keep on researching and developing until you have something that can be considered a marketable product. Then do not quit, but keep on developing to improve upon it.

Yours truly,

Richard H. Stamm

Richard H. Stamm, P.E.
President

LETTER FROM LENNOX INDUSTRIES, INC.

July 11, 1989

Uwe Rockenfeller, Ph. D., President
Rocky Research
674 Wells Road
P. O. Box 1086
Boulder City, NV 89005

Dear Dr. Rockenfeller:

As a major manufacturer of comfort conditioning systems for single family residential and small commercial applications, we have become increasingly concerned in recent years of the potential lack of the availability of an adequate summertime electric power supply. Nationwide, the annual electric power generation load factor has declined from 65 to about 62% during the past eight years. The heavy peak demand of air conditioning is causing severe potential problems in most of the country during summertime daytime hours.

One obvious answer to the problem is to reduce daytime power requirements of air conditioning and use available excess capacity during off peak nighttime hours. To accomplish this will require a cost effective cool thermal energy storage system. It is our opinion that this will be a system employing either complex compound chemical or refrigerant driven ice storage technology.

The development of innovative high efficiency cool TES equipment applicable to over 30,000,000 existing centrally air conditioned single family homes will provide the country several major benefits including:

1. Highest utilization of the most efficient and environmentally "friendly" generating capacity such as hydro, nuclear and latest technology coal-fired power plants.
2. Reduce the need for additional utility investment in gas-fired combustion turbine peaking generation capacity and the resulting negative impact on rate payers.
3. Unique TES equipment can provide major export opportunities for U. S. manufacturers in the the mid-East OPEC countries, the entire Caribbean basin and the countries of the Pacific rim.

It is our hope that the Appropriations Committees of the U. S. Senate and Congress consider a course of action regarding thermal energy storage development sponsored by the Department of Energy that can provide a major market opportunity for the U. S. manufacturers of space conditioning equipment.

Yours truly,

Ted C. Gilles

Ted C. Gilles

LETTER FROM INTERNATIONAL THERMAL STORAGE ADVISORY COUNCIL

July 11, 1989

Dr. Uwe Rockenfeller
ROCKY RESEARCH CORPORATION
P.O. Box 1080
Boulder City, NV 89005

Dear Uwe,

You have advised me that you will be interacting with members of the Senate Energy & Water Development Sub-committee relative to the Department of Energy's program and budget in fields related to energy storage.

As you know, the International Thermal Storage Advisory Council is a non-profit corporation created to foster widespread use of cool storage in commercial and industrial applications. This is accomplished primarily through monthly publication of newsletters and technical bulletins disseminated to nearly 1,000 subscribing members--utilities, engineers, research agencies, and large commercial/industrial firms. ITSAC is supported technically and financially by both the ELECTRIC POWER RESEARCH INSTITUTE and EDISON ELECTRIC INSTITUTE.

As President of ITSAC, I have participated in several DOE sponsored events, and thus have been aware of what I consider severe limitations in DOE programs in the field of energy storage. The emphasis seems mostly on research areas that have limited practical application in the near-term, such as acquifir and seasonal storage.

I am sure that members of the Senate are acutely aware of impending shortages of electric generating capacity in several areas of the country. This has come about primarily because of problems with nuclear plants and environmental concerns with conventionally fueled generators. By making ice, chilled water, and/or other storage media at night, air conditioning and process cooling electric loads are shifted away from the daytime demand peaks. Since these loads are what cause the summer peaks, the need for new generating capacity can be substantially reduced by widespread use of the cool storage technology. It simply permits electric utilities to utilize their existing capacity more efficiently!

During the 1980s, the methodology and equipment associated with cool storage has matured, and is now accepted as the most effective load management technology available to utilities. This fact has been recognized by over thirty utilities that actually contribute subsidies to customers installing cool storage equipment--and additional utilities are adopting such programs each year. While the U.S. is the accepted leader in the field of cool storage--West Germany sets an example of what can be accomplished--albeit they leveled the load curves with heat storage.

Our leadership in cool storage is already having an impact on exports--several of our manufacturers have extensive marketing organizations in foreign countries, and the potential for export growth is extremely great. Another benefit of cool storage relates to the Greenhouse Effect. The refrigeration plant for storage systems is smaller than for conventional air conditioning, and refrigerant piping only runs between the plant and the storage tank. This not only reduces the amount of refrigerant required, but reduces the likelyhood of leaks to the atmosphere as well.

Despite the proven worth of the cool storage technology and its acknowledged benefits to the national energy and environmental scene, DOE has virtually ignored this branch of the energy storage field. Most research and development on cool storage has been performed by EPRI, and ITSAC has provided most of the educational function to the industry. There is much more R & D which can be done to develop new methodologies, storage mediums, and application techniques. There are new and innovative storage concepts that need to be explored and developed, which have the potential for improving upon the efficiency of existing methods. If the U.S. is to have an integrated energy plan aimed at solving the problems referred to above, DOE should devote a substantial amount of available funding to research which will improve upon a technology which provides an assurance of success. Now is the time to apply the knowledge which has been gained during the past decade, and to enhance the technology through more research and development. We have been reasonably successful, but I think its time for DOE to join the team!

Sincerely,

Loren W. McCannon

Loren W. McCannon
President

LETTER FROM PAUL MUELLER CO.

Dr. Uwe Rockenfeller
Rocky Research
674 Wells Road
P. O. Box 1086
Boulder City, NV 89005

July 12, 1989

Dear Dr. Rockenfeller:

I would like to take the opportunity to express our interest in your complex compound thermal storage development. The technology has the definite potential of being a breakthrough in the refrigeration and thermal storage industry for the US as well as world wide.

Paul Mueller Company is a manufacturer of thermal equipment for the commercial and industrial market. Our company realized the future potential of thermal storage equipment and therefore developed ice harvester technology which constitutes our newest product. The principles of the new technology, however, are based on the very old principle of water to ice conversion. Advanced chemical thermal storage systems, such as yours, could provide cost, efficiency and installation advantages of invaluable benefit to the US thermal storage industry.

Therefore, we sincerely hope that the appropriation committees of the US Senate and House realize the need and opportunity for research and development on commercial and industrial thermal storage equipment and will make available funding to the USDOE to pursue yours and other promising concepts which will benefit the US industry.

Sincerely,

PAUL MUELLER COMPANY

David E. Knebel

David E. Knebel, P.E.
General Manager
Thermal Products

Senator Reid. Mr. Rockenfeller, will you remain seated, please. I have some questions for you.

Please proceed, Mr. Brett.

STATEMENT OF C. EVERETT BRETT, ASSOCIATE DIRECTOR, BUREAU OF ENGINEERING RESEARCH, COLLEGE OF ENGINEERING, UNIVERSITY OF ALABAMA

Dr. Brett. Mr. Chairman, the University of Alabama also wishes to express appreciation for the opportunity to testify. We reiterate the funding levels that Dr. Rockenfeller has mentioned—$5.5 million for all of the thermal energy storage program; specifically, $2.5 million for seasonal storage at the Pacific Northwest Laboratories, $2 million for industrial storage at Oak Ridge National Laboratory, and $1 million for diurnal storage at Oak Ridge National Laboratory.

AQUIFER STORAGE SYSTEM

The University of Alabama has a seasonal storage project, which is a student recreation center that has installed in it a 100-ton air-conditioning system that is an aquifer thermal energy storage system. It is very simple in concept. We take water out of the ground in the winter time, expose it to cold winter air, chill it, put it back in the ground in a separate set of wells, pump it back to the surface in the summertime, and use the cold water to air-condition the building.

The benefits of this technology are that it reduces total energy usage on an annual basis by 50 to 80——

Senator REID. That is not as simple as it sounds. Go through that again: you do what with the water?

Dr. BRETT. We take it out of the ground in the winter time and run it through cooling towers to chill it with the ambient cold air, and then put it back down in the ground in a second set of wells where it is stored during the winter time. Then in the summertime, we bring the cold water back to the surface and use it in the fan coil systems in the building to air-condition the building.

Senator REID. Why wouldn't it melt underground?

Dr. BRETT. It's in the liquid phase all the time. It goes back on the ground with an average temperature of about 45 degrees, which is adequate for air-conditioning in the summer time. That is about the same temperature as commercial chillers.

The important thing about this technology is that it reduces annual energy usage by 50 to 80 percent of conventional. There are no chillers or anything involved in the system; just pumps. It shifts power from summer to winter, when electrical power is more abundant. It is applicable to all large systems in the United States, even to central cores of cities. The payback on the system is 3 to 4 years, which makes it very economical.

One of the things we noted this year is that it eliminates human pathogens that are associated with conventional cooling towers, such as legionnaires diseases, since most of the water is moved during cold winter temperatures, not in the summertime, and it is not recirculated. There is no discernible effect on the aquifer, and no net use of water.

We have two other development projects in place, one at the General Motors Harrison Radiator Plant. It is a scale-up of 1,000 tons. It is a field test, which is a joint project with the General Motors Corp. When completed and operated successfully, General Motors anticipates using it throughout their entire corporate structure, which will put it immediately into the marketplace. We completed the feasibility study for the VA hospital in Tuscaloosa for a new patient treatment building, and then the preliminary design, which is 750 tons—also field tests.

I guess if there is one point that I would like to make to the subcommittee at this juncture is the total importance of thermal energy storage to the prospect of reducing energy for the future. We can build new utility powerplants, but the alternative is to reduce the amount of energy that we use. These technologies can be put in place long before new utility plants can be constructed and put on line.

I wish also to emphasize that the Japanese and the Europeans are working on this technology. We would like to see it developed in the United States, and the only way we can do that is with support from the Government.

In closing, the University of Alabama strongly endorses a fiscal year 1991 budget of $5.5 million for all DOE thermal energy storage programs. Thank you very much, sir.

[The statement follows:]

STATEMENT OF DR. C. EVERETT BRETT

This statement pertains to FY 1991 Department of Energy R & D Appropriations for Thermal Energy Storage Research. The University of Alabama strongly endorses the continuation of thermal energy storage research at a modest level of funding and offers recommendations whereby an effective R & D program can be continued at a funding level of $5.5 million, we recommend the following specific programs for Thermal Energy Storage:

Seasonal Storage-	$2.5 million - allocated to Pacific Northwest Laboratories
Industrial Storage-	$2.0 million - allocated to Oak Ridge National Laboratory
Diurnal Storage-	$1.0 million - allocated to Oak Ridge National Laboratory

These recommendations provide levels appropriate for field experiments which are necessary to continue the research in the several categories. We also recommend that wording be placed in the report that will permit the use of some of these funds for field experiments and their installation.

The University of Alabama develops, conducts, and supports alternative energy and environmental research which responds to state, regional, and national needs. To accomplish these goals, The University of Alabama has committed substantial funds and human resources for many years to research directed at finding ways of reducing the use of and conserving the nation's energy resources and reducing the environmental impact of producing energy. The Department of Mechanical Engineering has been conducting research in thermal energy storage in aquifers since 1977.

Thermal energy can be stored seasonally in aquifers either as heat for winter heating or as chill for summer air conditioning. The College of Engineering has concentrated its efforts on research pertaining to the storage of chilled water for air conditioning because of the high electrical energy demands for air conditioning throughout the South. Air conditioning occurs the year around in large buildings, even in the cold northern latitudes of Canada because of the internal loads generated. Aquifer air conditioning consists primarily of pumping groundwater in the winter from one set of wells, cooling it by exposure to cold air temperatures and returning it to the aquifer in a second set of wells. Flow between the two sets of wells creates a storage volume that contains the chilled water on an annual cycle. In summer, the flow is reversed and chilled water is pumped back to the surface and used for air conditioning buildings. After the water cools a building, it is pumped back into the original set of wells and the cycle is subsequently reversed.

Our results through theoretical modelling and through experience with prototype air conditioning systems constructed in the Parisian Department Store in Tuscaloosa, Alabama, and in The University of Alabama Student Recreation Center show that a minimum of 50% of the air conditioning energy and cost can be saved as compared to conventional electrical air conditioning systems. The cost of purchasing and operating expensive chillers is eliminated. The main components of the system are the cooling towers or cooling ponds used to chill water, the wells, pumps, the connecting piping, the aquifer itself, and controls to operate the system. Our studies further indicate that, in systems which incorporate cooling ponds for winter heat exchange, as much as 80% of the cost of electricity and energy can be eliminated. These cooling pond studies have yet to be tested in the field to corroborate the calculations. Approximately 70% of the nation's population is located in areas where aquifers are available for thermal storage.

In addition to the aquifer air conditioning systems constructed for the Parisian Department Store and the University of Alabama Student Recreation Center, a 1000 ton system has been designed by the University for the General

Motors Harrison Radiator Plant in Tuscaloosa. The construction costs as confirmed by bidding show a payback on investment of three to four years. General Motors Corporation wishes to participate in a monitoring program to evaluate the operational effectiveness of the system, and has indicated that they would have a strong interest in using this energy conserving technology throughout their industry. Work on this project has already begun and should be completed this year in time to begin chilling groundwater in the Fall. This is a joint project funded by DOE and General Motors. General Motors has already completed a major part of the installation.

In addition to the aquifer air conditioning system just described, the Veterans Administration Hospital in Tuscaloosa is planning the construction of a major new treatment building to replace several old buildings. Aquifer air conditioning is being considered as part of the work. These plans have been reviewed by the Veterans Administration Engineering Division in the Washington, D.C. Central Office and have been conceptually approved for the Tuscaloosa site. A preliminary design has been completed and an extensive site evaluation was conducted during the summer of 1989 which showed the site to be ideal for an aquifer air-conditioning project. The site evaluation was funded by DOE and conducted jointly by The University of Alabama and Battelle Pacific Northwest Laboratories.Later plans included incorporating all buildings at the site into a district cooling and heating system. This is an ideal site to demonstrate the commercial application of aquifer air conditioning because of the benefits that would accrue to the Veterans Administration. In this particular case, all of the treatment buildings could be incorporated into a single distributed system with the storage volume located in a large area under the buildings. It would be very beneficial for the Seasonal Storage Program in the Department of Energy to monitor such a system because it would be a fourth generation design benefitting from the design experience at the General Motors Radiator Plant.

A successful experience at the Veterans Administration Hospital and the General Motors Radiator Plant could result in the construction of aquifer storage air conditioning systems throughout the General Motors organization and similar installations at federal facilities such as VA Hospitals, military bases, and other large federal installations which could significantly reduce the governments energy bill.

Of great importance is that thermal storage and aquifer air conditioning will reduce the total national demand for electricity, thus limiting the need for new electrical generating equipment and potentially limiting environmental degradation caused by generating electricity, (acid rain, etc.). The technology also load-levels by shifting the demand for electricity for air conditioning from summer to winter when electricity is abundantly available. Applied throughout the United States where aquifers are available, the potential energy impact is a savings of 4.9 quads of energy from Seasonal Storage alone where the United States annually uses approximately 75 quads of energy. A reduction of energy use of this magnitude is not only a major economic savings, but will also reduce power plant emissions proportionately, thus mitigating the effects of acid rain, ozone depletion, and global warming.

The University of Alabama has been deeply involved in improving our research base in thermal energy storage; hence, we offer our thoughts regarding the priorities for thermal energy storage research as a national program. The Thermal Energy Storage Program (TES) has historically supported the development of TES technologies that 1) utilize off-peak electricity for heating or cooling, 2) enable utilization of renewable energy resources, such as solar and seasonal chill, and 3) provide ways to use waste heat for seasonal thermal energy storage and to lower overall industrial energy consumption. Applications oriented research in these areas has been accompanied by fundamental work to analyze and develop our understanding of geophysical and geochemical issues impacting aquifer TES, field testing of high-temperature aquifer seasonal TES and seasonal chill storage, and the development of schemes for using TES in utility power plants.

The entire U.S. Department of Energy (DOE) Thermal Storage Program consists of funded research in the areas of 1) diurnal TES, in which heat (or chill) that is available at one time of day is stored for use at a later time; 2) industrial TES, in which heat that is available during one industrial process is stored for use in another; and 3) seasonal TES, which exploits reservoirs, such as aquifers, as a storage medium for long-term storage of heat and chill. All of these technologies promote the concept of recycling energy rather than wasting it to the atmosphere. The seasonal portion of the program is managed by PNL while the diurnal and industrial components are managed by Oak Ridge National Laboratories.

There are several major projects in the TES Program that are reaching a stage where technology transfer initiatives are underway. Examples include aquifer chill storage for space conditioning applications, aquifer heat storage for space conditioning and process heat applications, and utility thermal energy storage. Clearly all of the problems and issues concerned with TES have not been solved. However, significant progress has been made, placing selected TES systems at the threshold of commercialization where support for a continued TES Program is most needed.

As for future development of TES technologies, the need is perhaps greater now than before. It comes as no surprise that energy supply and use in the United States is undergoing substantial change, primarily as a result of several economic and environmental factors:

- Electricity usage continues to grow particularly at peak periods of the day, thereby worsening the utility load factor. For the near-term, base load generating capacity is adequate; however, in some areas of the country, a peak capacity shortfall is projected for the mid-1990's.
- The fraction of imported oil used in the United States (now at 45%) continues to grow while domestic production has dropped to its lowest level in a decade.
- Environmental concern for acid rain, ozone depletion, and global warming is increasing.

Development and implementation of energy storage technologies can make a major contribution to resolve each of these issues. Through its ability to couple an energy supply to a demand when there is a temporal mismatch, TES substitutes abundant base load electricity to be used during periods of peak demand. This offsets the need for peak power generation from oil and gas, improves utility leak factors, and decreases overall plant heat rates. Technologies based on TES facilitate use of renewables, such as solar, where availability of the energy resource does not coincide with the need. Finally, primary energy is conserved when TES is used to capture industrial waste heat for reuse.

A strong productive TES Program gives a competitive edge to U.S. industry in world markets through lowered unit production costs, improved balance of trade, and in the development of TES products and related systems for export.

Despite the need for further applied research in TES, funding of the program has been reduced from a high of $51.9M in 1980 to $1.1M projected to be spent on TES development in FY90. At this funding level, successful transfer of even the most near-term technologies to industry is at grave risk. Two questions become obvious: 1) What is a realistic level of support for TES research? and 2) What steps can be taken to secure the required funding? With respect to the first question, a review of the entire TES Program was conducted 1 year ago by an ASME expert panel chaired by A.E. Bergles of Rensselear Polytechnic Institute. The panel concluded that the TES Program is highly deserving of continued support and further recommended that the DOE budget for TES be increased to a level of $5.5M annually. This sustained funding level would permit further development of TES materials and systems that are within reach of cost and performance goals.

A key issue in industry is energy competitiveness. The Europeans and Japanese utilize heat in any form to improve competitiveness. Much of the technology they currently use has been conceptualized in the United States and developed in foreign countries. Unless we can continue to develop our own energy technology we will soon be buying the technology from foreign sources. We should be in a position to export energy technology but the path we are currently taking will place us in a position of being importers not only of energy but of the energy technology to best use it. Even now all the generators use in the southern California windmill farms are built by Mitsubishi.

Thermal energy storage can make a significant contribution toward the solution of the energy problems facing the United States. The United States must deal with two energy issues: (1) the nation is becoming increasingly dependent on imported oil and (2) increased demand for electric power will require approximately 100,000 Megawatts of additional peak electric power generating capacity by the year 2000.

Thermal energy storage can reduce oil consumption by facilitating the use of waste heat and winter chill for space heating and industrial process heat. Thermal energy storage has the potential to reduce national energy consumption by approximately 10 quads. The demand for peak electric power can be reduced by storing heat and chill produced during off-peak time periods for heating and cooling during peak demand periods. In addition, thermal energy storage in a power plant can increase peak generation capacity. Thermal energy storage has the potential to reduce peak demand by 1.7 quads and to increase peak generating capacity by 20,000 Megawatts.

If DOE does not adequately fund thermal energy storage development, the technology will be developed overseas instead. Thermal energy storage will ultimately be used in the United States because its advantages are compelling. The question is, will this technology join the growing list of those originated in the United States but commercialized overseas?

The University of Alabama strongly endorses continued funding of the Thermal Energy Storage Research Program especially in the areas of Industrial Storage, Seasonal Storage, and Diurnal Storage, and urges the appropriation of the very modest $5.5 million for its continuation in FY 1991.

COMMERCIAL POTENTIAL

Senator **Reid**. Would you both respond to the question: If the Department of Energy supports thermal energy storage research, how long will it be until it will be commercialized?

Dr. **Rockenfeller**. With respect to the projects for diurnal and industrial thermal storage, most of the projects—at least all that I am aware of—are all in the range of between 2 years, and that goes for our complex compound technology, maybe 2½ to about 4 years. So it is kind of a like a short-term to mid-term type of development.

Dr. **Brett**. The seasonal storage technology currently under construction at the Rochester plant will be completed this year. It will have its first operating cycle next year. I think it is reasonable to say that it will be available to the marketplace within 2 to 3 years.

Senator **Reid**. You have indicated in your testimony, Dr. Rockenfeller, that the reason the private sector does not go into this is that it consists of a bunch of small businesses?

Dr. **Rockenfeller**. That is correct.

Senator **Reid**. I would just say in passing that we have found even big businesses are reluctant to put their money into research and development. They spend a lot of money on the magnetic levitation, and we have found there that the big businesess, the biggest we have in the country, are unwilling to do research and development unless the Federal Government makes a commitment that they will also work toward that goal. So it is even more definite when you are dealing with a bunch of small busineses.

Dr. ROCKENFELLER. I would like to point out that we did find a manufacturer who is making a considerable investment on their side for a manufacturing process in tooling. It is just the area that they are not familiar with, which is the chemical engineering end of it, that they are just not capable of providing support on that, too.

Senator REID. Thank you very much for your interesting testimony.

Dr. BRETT. Thank you, sir.

Dr. ROCKENFELLER. Thank you.

Senator REID. I see in the audience my colleague, Senator Exon. Would you like to proceed or wait until your associate arrives? Senator Kerrey is expected, but whenever he comes, we will have him come forward. So as not to keep you waiting, you may proceed, Senator.

NEBRASKA WATER RESOURCE PROJECTS

STATEMENT OF HON. JAMES J. EXON, U.S. SENATOR FROM NEBRASKA

Senator EXON. Mr. Chairman, thank you very much. Just listening to your comments, I am pleased to tell you that we have been very appreciative of the fact that we are working with you and other senators with regard to magnetic levitation. We are moving on that very aggressively in the Commerce Committee. It comes under the jurisdiction of the Surface Transportation Subcommittee that I chair in that committee.

Certainly, magnetic levitation is one of those areas, as the Chair knows full well, was a rail system developed and invented in the United States of America. Then when the Government dropped its interest in that several years ago, it was taken over by several foreign countries that are now moving very aggressively in this area. I think it is tremendously important, if we are concerned about surface transportation, if we move aggressively in that area. We appreciate the comments, the consideration, and the helpfulness that you, Mr. Chairman, and others have been in this whole area.

Mr. Chairman, I will be brief this morning because I know that you have lots of people to hear from. I just want to take this opportunity to kick things off for Nebraskans who will be making presentations to you today. I also want to put in a plug for those who will be submitting testimony for the record that cannot be in person. I will take a close look at their testimony, as I am sure that you will, and I will get back in touch with you on it before your bill goes to markup.

As the chairman knows, I take a very keen interest in the work of this subcommittee because it is so important to Nebraska. Water is vital to our State, and I want to be sure that we make the best use of our resources, with the help of you, Mr. Chairman, and the members of this subcommittee.

This subcommittee showed a great deal of foresight last year in moving forward with the North Loup project, and you deserve our most sincere thanks. I won't be giving any sermons this morning on North Loup, or bring out the blown-up photographs like we did last year. We have them all in storage though, Mr. Chairman, for future reference if you or others need them. Don Hughes is bringing you the message on that particular project.

I also want to introduce some others who play a key role in this area in Nebraska. Mr. Mike Jess will be testifying on behalf of the Governor and the Nebraska Department of Water Resources. Alfred Drayton, long active in the proper use of irrigation and the proper use of water, is here to talk about the future of the O'Neill alternative. Mr. Kent Miller and Mr. Dale Walgren will bring you up to date on the Platte River stream bank demonstration project, and Mr. Jim Vanderloop will speak on behalf of the Cedar Valley Reclamation District and about the Loup Basin management study.

Some other Nebraskans will be teaming up with folk from other States on projects that we have in common. Darrel Curry is representing Nebraska on the Missouri National Recreation River, and the Iowa Department of Natural Resources will be making a presentation on the Missouri River mitigation project, which is also very important to the Papio-Missouri River NRD.

I appreciate your attention to each of these witnesses and the testimony that will be submitted by others. I look forward to working with you and all of the people on your subcommittee and the committee as a whole on each of the projects in the weeks to come.

Mr. Chairman, once again, I want to emphasize that you have been very helpful and understanding in the past in these areas and I know that you will be interested in the testimony that we will be presenting by Nebraskans today. Are there any questions?

Senator REID. Senator, we appreciate your being here and introducing, in effect, the witnesses that will testify for these projects in Nebraska, recognizing that with your experience in having been Governor of Nebraska, your experience here as a Senator, that certainly we will look to you for guidance and leadership in how these projects are funded. Thank you very much for your testimony.

Senator EXON. Thank you, Mr. Chairman.

Senator REID. Thank you, Senator

The first witness on the Nebraska projects will be J. Michael Jess of the Nebraska State Department of Water Resources. We would ask that he be accompanied to the witness table by Alfred Drayton, president of the North Central Nebraska Reclamation District.

STATEMENT OF J. MICHAEL JESS, DIRECTOR OF WATER RESOURCES, NEBRASKA

Mr. JESS. Thank you, Mr. Chairman. I am Michael Jess, and my testimony is on behalf of Governor Kay Orr. I have listed, just briefly, a number of projects that I would like to call your attention to, and you have the written testimony that I have provided to your staff.

MISSOURI RIVER FISH AND WILDLIFE MITIGATION PROJECT

The Missouri River mitigation proposal is one that is intended to rectify some of the environmental damage that was caused by the navigation project on the Missouri River. The President has proposed $429,000. We would just call your attention to the fact that not all of that effort need go toward studies and toward planning. After the Corps of Engineers finishes those activities, if there is money that remains, we would hope that your committee would direct the Corps to initiate acquisition of real estate and other activities.

PLATTE RIVER BANK EROSION DEMONSTRATION PROJECTS

The Platte River Bank demonstration program is one that will follow me, and you will hear more details about it. From me, let it be simply that when the Platte River does flood—and that happens periodically—the very soft banks are easily eroded. Some of our prime farmland is lost, as well as bridges and other public facilities. We are asking full funding for a 5-year construction program, with a $4 million Federal share.

MISSOURI NATIONAL RECREATION RIVER PROJECT

The Missouri River bank stabilization project, again, is one of those projects where there has been substantial bank erosion following the construction of the main stem reservoir projects. Darrel Curry will follow me, and he will be talking about the details there. There is a need for about $1,060,000 for new money to go toward construction, and then operation and maintenance of about $200,000.

BUREAU OF RECLAMATION PROJECTS

The Bureau of Reclamation has a number of projects in my State. The Sargent unit has need for some $200,000 for rehabilitation and betterment loans. The district has found with age in their project that these activities need to go forward just because of the continuing need for rehabilitation of their facilities.

The Prairie Bend project in the Platte Valley of Nebraska is in need of $200,000 for in-stream flow and wildlife habitat studies that will finish up, we hope, the planning activities for that project.

In Nebraska, as well as many other States in the Great Plains area, ground water is the sole source of water for many communities. As that is being used, depletions have resulted and there have been some attempts in the past several years to recharge those supplies.

Congressman Bereuter introduced a bill several years ago for experimentation projects, the goal of which is to attempt to perfect that technology. I do not know the amounts, but I am told that the cost ceiling that was originally put on the legislation is now deemed to be too low. It is my understanding that the Congressman will be coming back to the Congress later this year with a better cost estimate for what that ceiling ought to be. At any rate, Governor Orr has instructed me to urge your favorable view on that cost ceiling.

There are several other projects that are ongoing studies that I have included here. I am not going to go into each one of those, but I would like to follow Senator Exon's acknowledgement of this committee for acting favorably on the Davis Creek Dam a year ago. That project is well underway, and I am sure it will be a benefit to the North Loup project.

Finally, Mr. Chairman, the Papio Natural Resources District provided to me a copy of their testimony. They cannot be here, and I have given that to your staff. Thank you. I will be happy to answer any questions.

[The statement follows:]

STATEMENT OF J. MICHAEL JESS

Mr. Chairman and committee members, I am Michael Jess, Director of Water Resources for the State of Nebraska. My testimony is given on behalf of Kay A. Orr, Governor of Nebraska. My purpose in appearing before you is to urge your support for several water resources projects and investigations needed in my state.

1. Missouri River Mitigation (Corps of Engineers)

Few question the benefits navigation on the Missouri River provides. Since completion of the navigation facilities, bulk grain shipments and other cargo have moved efficiently along the inland waterway.

Despite the well-intended efforts of its designers, inadvertent environmental problems are now evident. In Iowa, Missouri, Kansas and Nebraska, an estimated 475,000 acres of fish and wildlife habitat have been lost. Jointly, the four states and various local interests have devised innovative plans.

Governor Orr and I support the $429,000 funding level contained in the President's 1991 Budget proposal. The Corps of Engineers should be directed, however, to initiate acquisition of real estate required for the project using any funds not needed for completion of planning and design activities.

2. Platte River Bank Demonstration Program (Corps of Engineers)

For decades, water flowing in the Platte River has eroded away its soft banks. Valuable and highly productive farm land has been lost. Highways, bridges and public facilities are also adversely impacted. During the past several years, Corps' investigations have produced several innovative solutions. Speakers that follow will provide details. They will also outline expected costs over a five-year period.

I am here now to request your support. Full funding for the five-year construction program is needed. Local, non-federal support is committed to sharing in the $4.0 million federal share.

3. Missouri River Bank Stabilization (Corps of Engineers)

Since construction of the Missouri River main stem water storage facilities, substantial bank erosion has resulted following release of the water. Productive farmland and environmentally sensitive properties have been impacted adversely. The area hardest hit lies between Gavins Point Dam and Ponca, Nebraska.

Construction of needed bank stabilization facilities is needed. The Administration's proposal is too low and should be increased to $1,060,000. Necessary operation and maintenance should be increased to $200,000. Representatives from the Missouri River Bank Stabilization Association will follow me and will provide all the details.

4. Other Corps of Engineers Projects and Programs

Several other projects and programs also impact my state. Nebraska is supportive of these proposals:

Antelope Creek flood survey	$ 21,000
Boyer Chute habitat rehabilitation	900,000
Papio Creek flood control construction	2,905,000
Salt Creek flood control feasibility study	660,000
Wood River flood control survey	178,000
Section 22 planning assistance	5,000,000
Section 205 small flood control projects	30,000,000
Section 206 flood plain management services	9,000,000
National drought study	2,500,000

5. Sargent Unit (Bureau of Reclamation)

A rehabilitation and betterment loan is needed by the Sargent District for project rehabilitation and betterment activities. With project age, problems became evident. But, valuable experience in solving them has been gained. The District's proposals will permit greater efficiency in operations. For FY 91 some $200,000 is needed. Again, District spokespersons will follow and will provide the details. Their proposal has Nebraska's support.

6. Prairie Bend Unit (Bureau of Reclamation)

Nebraska is in support of your appropriating $200,000 next fiscal year. Funding would permit undertaking wildlife habitat and instream flow investigations in the Platte River valley. The Administration failed to include this important program in recommendations made to the Congress.

7. Ground Water Recharge Demonstrations (Bureau of Reclamation)

Continued efforts are essential to assure adequate ground water supplies in areas experiencing a declining water table. In many locations, ground water is practically the sole source of supply. Reliable, cost-effective methods of replenishing those supplies are essential to continued vitality.

Two demonstration projects have been selected for Nebraska. Initial construction at the York site is nearing completion. Demonstration activities are scheduled to begin soon thereafter.

We are told the current expenditure ceiling is too low. Governor Orr has instructed me to urge your raising the ceiling as will be suggested by Congressman Bereuter, the program's original sponsor.

8. Other Bureau of Reclamation Projects and Programs

Several other Bureau projects and programs contained in the President's recommendations also impact Nebraska. We support funding these programs as well:

North Loup Division construction	$ 21,600,000
O'Neill Unit investigations	600,000
Farwell Unit drainage and minor construction	460,000

Regarding the North Loup Project, if they were here, I'm sure many from my state would acknowledge their gratitude to this committee for last year's support of the Davis Creek Dam.

Mr. Chairman, thank you for past support of these and other activities. I also appreciate the opportunity to present Nebraska's testimony. Should questions arise, please direct them to me.

O'NEILL UNIT, NEBRASKA

STATEMENT OF ALFRED DRAYTON, PRESIDENT, NORTH CENTRAL RECLAMATION DISTRICT, NE

Senator **REID**. The next witness will be Alfred Drayton, North Central Nebraska Reclamation District.

Mr. **DRAYTON**. I am Alfred Drayton, president of the North Central Nebraska Reclamation District.

The Bureau of Reclamation was given money last year to do some research to see how we could recharge the O'Neill unit area without building a dam. I think they were quite successful. They pumped water from a present irrigation well into four separate sections, and each one of them—I think the map will show you how much they created in 123 or 125 days of pumping. They show that they have delivered quite a lot of water into these wells that they tested very successfully. I think that is the main part of it.

I think they are going to have to do some more testing. We did some testing on an area for water a couple of years ago, but they did some more on that a year ago, and we find that it is too far away from the project lands. So now we are going to have to find a closer source. I think that is what the main subject will be this coming summer, to find a source where we can get the water closer to the irrigatable lands. The river is only 10 or 12 miles at some points. I do not know if there is anything else to add.

Senator **REID**. We appreciate your testimony, Mr. Drayton. Those of us from the arid West always look on the map at Nebraska and think you have all the water you need.

Mr. **DRAYTON**. It is not in the right place, though. It is usually up above. My dad used to talk about the clouds coming over Nebraska. He said, "Those are empties coming back from Iowa."

Senator **REID**. Is there much irrigation that goes on in Nebraska, a lot of irrigating?

Mr. **DRAYTON**. Yes; we have lots of irrigation, but we don't have enough water in some places. Our area is very short of water.

Senator **REID**. That is north central Nebraska. And you have droughts like we have in the West?

Mr. **DRAYTON**. It hardly rained at all last year; it was very dry.

Senator **REID**. Thank you very much for your testimony. It means a lot to the committee for you to be here today.

[The statement follows:]

STATEMENT OF ALFRED DRAYTON

Thank you, Mr. Chairman, and members of this distinguished Appropriations Subcommittee on Energy and Water Development, for this opportunity to present testimony on behalf of the North Central Nebraska Reclamation District as sponsors of the modified and reformulated O'Neill Unit, Nebraska, Pick-Sloan Missouri Basin Development Program.

We have been privileged to work with this Subcommittee and to have its support since 1974. We are testifying in support of the President's fiscal-year 1991 budget request of $600,000 to continue the vitally important groundwater recharge verification study.

We wish to again make it unmistakeably clear that we still prefer the original, tried-and-true, fully tested, presently authorized project. As the Subcommittee knows, the original project, first authorized in 1954 and reauthorized in 1972, was a middle-sized, conventional multipurpose reclamation project. The Norden Dam and Reservoir were major features of the plan.

But since Nebraska support has become deeply divided for this original approach to development on the Niobrara River, we are glad to work with this Subcommittee, the authorizing Interior Committees of House and Senate, the State of Nebraska, and others to convert this into a workable, artificial groundwater recharge project.

By letter dated March 1990, the Bureau of Reclamation provided us with a brief description of the agency's recharge program at the O'Neill Recharge Site. I ask permission to make this letter and accompanying map a part of the official record.

Our understanding is that tests of the recharge concept continue to produce promising results, and we continue to be hopeful that this approach to water storage underground will turn out to be less costly, less disturbing to the environment, but more beneficial to both humans and wildlife.

As this subcommittee knows from Bureau of Reclamation budget justifications, the preconstruction studies are being conducted under a memorandum of understanding between the Bureau and the Nebraska Natural Resources Commission.

The Bureau of Reclamation has conducted geological investigations and aquifer performance tests to define and evaluate specific sites as a groundwater source in the Niobrara River VAlley. The US Geological Survey is collecting groundwater quality data through an interagency agreement with Reclamation.

We are keenly aware that this Subcommittee has approved planning and construction funds for this project totaling $8,857,115 from fiscal year 1974 through fiscal year 1990. As we all know, litigation as well as planning and research have consumed the years and the money invested so far.

As the groundwater research proceeds, we are exploring opportunities to develop alternative crops for this region--alternatives to program crops such as corn, for example.

We are doing this because we assume there will be some restriction on the use of federal project water for production of crops for which the US Department of Agriculture sets acreage or other production limitations--surplus crops, in plain language.

We have experimented with dried field beans, potatoes, and other vegetables. While production of these and other specialty crops certainly is feasible, marketing and processing will continue to be problems to be overcome should the O'Neill Unit become a reality.

Congresswoman Smith's bill, HR 47, providing an institutional structure for developing and commercializing new industrial crops and new uses for old crops, is legislation containing hope for those of us sponsoring new reclamation construction. We hope that her bill, or major provisions thereof will be part of the 1990 farm bill.

We note that controversy bubbles anew in the Niobrara River Valley near the site of the O'Neill Unit. So far, only one of four bills being considered by the House Interior Subcommittee on National Parks and Public Lands would impact on the reformulated O'Neill Unit.

These bills would study or immediately designate a portion of the river as part of the National Wild and Scenic River System.

Congresswoman Smith has furnished us a copy of a March 29, 1990, letter to her from Commissioner Dennis Underwood of the Bureau of Reclamation analyzing these bills' impact on the O'Neill Unit. A copy of that letter is provided with our testimony for the record.

The key paragraph is:

> With one exception the proposed bills relating to designation of the Niobrara River as a Wild and Scenic River, S.280, H.R. 761, H.R. 3823, and H.R. 1673, will not have an impact on Reclamation's project activities or the management of its lands. The exception referred to pertains to H.R. 3823, which omits language that would allow Reclamation to construct a diversion dam and pumping station on the Niobrara River to provide water for an 8,000-acre tract in connection with groundwater recharge studies for the O'Neill Unit, Pick-Sloan Missouri Basin Program, Nebraska.

Final version of this legislation, of course, could be completely different.

In closing, we thank the Subcommittee again and again for its support through the years, and we hope and trust we will continue to have that support.

Without Congresswoman Smith on the House Subcommittee to guide us in the future, we will be depending more than ever on the House and Senate Subcommittee's leadership and understanding of the merits of the O'Neill Unit and its promise of hope for beneficial development for the region and the nation.

LETTER FROM BUREAU OF RECLAMATION

29 MAR 1990

Honorable Tom Bevill
Chairman, Subcommittee on Energy
and Water Development
Committee on Appropriations
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

The following is the Bureau of Reclamation's response to the questions submitted for the record by Congresswoman Virginia Smith on four bills dealing with Wild and Scenic River status for the Niobrara River.

With one exception the proposed bills relating to designation of the Niobrara River as a Wild and Scenic River, S.280, H.R. 761, H.R. 3823, and H.R. 1673 will not have an impact on Reclamation's project activities or the management of its lands. The exception referred to pertains to H.R. 3823, which omits language that would allow Reclamation to construct a diversion dam and pumping station on the Niobrara River to provide water for an 8,000-acre tract in connection with groundwater recharge studies for the O'Neill Unit, Pick-Sloan Missouri Basin Program, Nebraska.

In connection with the Niobrara River, Reclamation's constituents are the water users associated with the proposed O'Neill Unit and the existing Ainsworth Unit and Mirage Flats Project.

We hope this information is helpful. Please feel free to contact me if I can be of further assistance to you on this matter.

Sincerely yours,

cc: Congresswoman Virginia Smith

LETTER FROM BUREAU OF RECLAMATION

Alfred Drayton, President
North Central Nebraska Reclamation District
130 East Douglas
O'Neill NE 68763

Dear Alfred:

This is a brief description of our recharge program at the O'Neill Recharge Site.

A local irrigation well was used as our water source. This well was approximately one mile from the closest recharge site. This distance provided minimal influence between the pumping point and recharge point and provided water of similar quality and chemical makeup to that of the recharge sites. Clear or sediment-free water was used to prevent any plugging of the aquifer. This well was pumped at a rate of approximately 700 gallons per minute for 126 days.

Four recharge methods were utilized both at the O'Neill and Atkinson sites. The four methods were:

1. Recharge Line - a 1,000-foot long, perforated, 8-inch diameter corrugated plastic line was installed 6 feet deep within a gravel envelope.

2. Recharge Pit - a 100-foot long pit, 10 feet bottom-width and 2 1/2:1 side slopes; pit depth was 5 feet.

3. Unsaturated Recharge Well - a 20-inch hole was augered to within 1-2 feet of the groundwater table, then 8-inch PVC casing and screen were installed for the screened interval. Hole depth was 66 feet, the screened interval was 36-66 feet.

4. Saturated Recharge Well - a 20-inch hole was drilled using standard methods for irrigation wells to a depth of 100 feet. Eight-inch PVC casing and screen were installed; the screened and gravel packed interval was from 65-100 feet and below the groundwater table.

Eight to 10 observation wells to monitor the effects of the recharge water were installed at each recharge site. These wells were generally 2-inches in diameter; one well at each recharge method was 5-inches in diameter. Groundwater samples were taken from these 5-inch wells on a monthly basis to monitor groundwater quality.

Depth to groundwater is 65-70 feet at the O'Neill site and 30-35 feet at the Atkinson site. Geologic conditions were similar at both sites. There are 2-3 feet of topsoil, then 90± feet of permeable sand. At a depth of 90-100 feet is the Ogallala Formation, which in this area is fine sand and silt. Our recharge was directed toward the thick sand interval above the Ogallala Formation.

At the O'Neill site, a total of about 350 acre feet of groundwater was achieved. The recharge line, recharge pit, and unsaturated recharge well all performed fairly equal, while the unsaturated recharge well sustained a lower recharge rate. The algae growth began occurring in the recharge pit at the O'Neill site about 90 days into the test and lowered the permeability of the bottom of the pit. Algae growth began occurring at the Atkinson site after about 60 days and also lowered the permeability of the bottom of the pit. The difference in time between the pits is attributed to more nitrates in the Atkinson recharge water and the shallower water level maintained in the pit.

Sincerely,

Larry

Larry D. Cast
Geologist

NORTH LOUP DIVISION

STATEMENT OF DONALD HUGHES, PRESIDENT, TWIN LOUPS RECLAMATION DISTRICT, NE

Senator REID. Donald Hughes, Twin Loups Reclamation District.

Mr. HUGHES. Mr. Chairman, on behalf of the Twin Loups Reclamation District, it is indeed an honor and a privilege for me to appear before this committee.

First, as Senator Exon has indicated, we want to thank you for your gracious support last year for the Davis Creek Dam project. As you are well aware, that particular phase of our construction was stopped about one-half completed. It is my understanding that we are progressing with that phase of the construction and they have started again this year. I guess the reason we are back this year is to confirm our continued need for funding for the completion of that portion of the project. I think our estimate on that was $21,646,000, which would complete the Davis Creek Dam and start on the Elba and Fullterton Canal systems.

As you are well aware, our district was organized in the late 1950's. It was funded in 1976 and then we ran into several delays through years of litigation. In 1979 we had funding on the Calamus Dam. In the original proposal, the project was to be completed in 1986. However, the dam was delayed but dedicated in 1985. Tourism has already exceeded the game and parks commission's 10-year prediction for that area. They have a wonderful resort area, fishing, camping, et cetera.

DAVIS CREEK DAM COMPLETION SCHEDULED

The Davis Creek Dam, as Senator Exon alluded to earlier, should be completed this fall. They are coming in with that probably at least 3 or 4 months ahead of schedule. There will be a little cleanup work to be done after that. The outlet structure for the Fullerton and Elba Canal is already in place, and the Bureau plans to award the contract for the first phase of that work for the Fullerton and Elba Canal systems supposedly on May 5.

What we are here for is to show you that the funds are needed for continued construction and request your continued support. The district is in such a position now that without a completed district of 53,000 acres, it would be impossible for us to meet our contractual obligation with the United States on a payback. We want, again, to thank you for your past support. We solicit your continued approval of our project so that we can go on with the completion on a timely schedule. I think the schedule now is for the completion of the project in 1994. So we are still looking down the road about another 4 to 6 years, sir.

[The statement follows:]

STATEMENT OF DONALD E. HUGHES

Mr. Chairman and Members of the Committee:

My name is Donald E. Hughes, President of the Twin Loups Reclamation District, I live in Scotia, Nebraska. With me today is Mr. Donald E. Kilday, President of The Twin Loups Irrigation District and Vice-President of the Twin Loups Reclamation District, Richard Russell, Treasurer and Director of the Twin Loups Reclamation District, Raymond Nowak, Director of The Twin Loups Reclamation District, Ron Wolf, Manager of the Twin Loups Reclamation District and Michael J. Shaughnessy, Attorney for the Twin Loups Reclamation District. Our group appears here today in support of the continued construction of the North Loup Division, Nebraska Project.

It is my privilege, not only as the President of the Twin Loups Reclamation District, but as a farmer who will benefit from the completion of the North Loup Project, to make this Statement on behalf of the Twin Loups Reclamation District and The Twin Loups Irrigation District.

The Calamus Dam and Reservoir are complete. All contractor claims have been settled and paid. The final stage in the three-year initial filling cycle was completed in the spring of 1988, and the conservation capacity if now essentially full.

The Nebraska Game and Parks Commission has completed construction of the recreation facilities around Calamus Dam. This has resulted in $570,000 Federal and $570,000 State expenditures under the agreement. In addition, the State used $675,195 from a State Recreation Road Fund to complete roads in the recreation areas.

Fish stocking has gone on for five years, and well over six million fish have already been stocked. The Nebraska Game and Parks Commission awarded a contract in August 1987 for site planning and preliminary design development of a fish hatchery.

Mirdan Canal, Section I is complete, and all claims have been settled and paid.

Mirdan Pipe Laterals Mirdan Canal, Sections II and III, the Geranium System, and the Scotia System are complete. The O&M Headquarters Building at Scotia and the caretaker's residence at Calamus Dam are complete. The purchase of O&M equipment is continuing. Irrigation service to approximately 33,000 acres is now available.

Contracts with the Twin Loups Reclamation District for operation and maintenance during construction and minor construction on completed facilities are in place and have worked well over the past four years. These items are the Bureau of Reclamation's responsibility until the specific feature is formally transferred to the District for operation and maintenance. This arrangement allows the District to start O&M of the project on the "groundfloor" while Federal fund and technical expertise is readily available. Conversely, the government does not have to set up a temporary short term operation and maintenance organization. On January 1, 1990, Block I, consisting of Mirdan Canal-Sections II and III, Mirdan laterals, and the Geranium System were transferred to the District for operation and maintenance.

A contract for construction of Davis Creek Dam was awarded to Gilbert Central Corporation, Omaha, Nebraska, in September of 1988. Due to the unseasonably warm and dry winter months for two consecutive winter seasons, the contractor is considerably ahead of schedule. It is projected that Davis Creek Dam will be completed in October, 1990, a full 10 months ahead of schedule. Land acquisition for the entire Davis Creek Reservoir area is complete except for 240 acres, which is scheduled for acquisition in fiscal year 1991. A contract for the relocation of the county road, reservoir clearing, and reservoir fencing is scheduled for award in March of 1991, and for completion in September, 1991.

A contract to construct the First Section of the Fullerton

System and all the Elba System is scheduled for award late in April 1990. All rights-of-way have been secured for this construction.

The design of the Fullerton II and III System is underway in the Denver office, and the contract award is scheduled for June 1991. Right-of-way acquisition for this section is currently underway.

Design data for the Kent Diversion Dam and Canal is underway, with design scheduled to start early in FY 1991, leading to a contract award in the spring of 1992. This is the last feature of the North Loup Division.

The current schedule projects all construction to be completed in the fall of 1993. According to terms of the repayment and water service contracts, a component of Federal operation and maintenance responsibility would continue until January 1, 1995.

During FY 1991, construction of the Fullerton-Elba System will continue, and the county road relocation, fencing, and clearing at Davis Creek Reservoir will be completed. Design of the Fullerton 2 and 3 System will be completed, and the design of Kent Diversion Works and Canal will begin. Rights-of-way acquisition for Fullerton 2 and 3 System and the Kent Diversion Works and Canal will be completed. A contract for construction of the Fullerton 2 and 3 System will be awarded late in FY 1991. Wildlife mitigation measures, procurement of operating equipment, and maintenance of the completed facilities will continue.

Finally, you will be able to see from our written testimony that from completion percentages prepared by the Bureau of Reclamation, the North Loup Project, excluding the cost of deferred facilities, will be nearly 81% complete by September 30, 1990. In order to complete construction we ask this Committee to support the President's budget request of $21,646,000 for fiscal year 1991. We appreciate the Committee's past support of our efforts to construct the Calamus Dam and Davis Creek Dam and the delivery structures associated with our project. In this regard, Mr. Chairman and members of the Committee, we wish to thank you also for your continued support.

Completion Percentages

North Loup Division

The enclosed "Project Data Sheet", which is part of the FY 1991 Budget Request, shows a completion percentage of 71 percent for the North Loup Division as of January 31, 1990. This is based on a complicated computation procedure that is supposed to correct for inflation factors, and more accurately reflect actual completion of contract work and not so much the design work.

In the case of North Loup Division, the above 71 percent completion percentage is very close to a conveniently derived, and I believe more accurate, figure based solely on funds spent.

$$\frac{\text{Spent through Sept. 30, 1989 (FY 1989)}}{\text{Total Federal Obligations}} = \frac{\$246,502,507}{\$348,610,000} = 70.7\%$$

Projecting completion percentages through FY 1990 would give the following results:

$$\frac{\text{Estimated Spending through Sept. 30, 1990 (FY 1990)}}{\text{Total Federal Obligations}} = \frac{\$267,530,507}{\$348,610,000} = 76.7\%$$

One could more accurately reflect the completion percentage of construction by eliminating the estimated costs of deferred facilities (surface and subsurface drains) from the total federal obligations.

$$\frac{\text{Estimated Spending through Sept. 30, 1990 (FY 1990)}}{\text{Total Fed. Obligations-Cost of Deferred Facilities}} = \frac{\$267,530,507}{\$348,610,000-\$16,185,000} = 80.5\%$$

IRRIGATION BENEFITS

Senator REID. You indicated in your statement that North Loup project is 81-percent completed?

Mr. HUGHES. The actual outlay of the work; yes. The construction of the dam facilities, the main laterals are in. What we are looking at now are the laterals necessary to bring in the irrigation lands that are necessary for the ability to pay back.

Senator REID. When this is 100-percent completed, what will you be able to do in this area that you cannot do now?

Mr. HUGHES. When we are 100-percent completed? I think probably right now, as a district, is our ability to meet that contractual obligation. The high-cost part of our project was under construction early. You are all aware of what happened in the 1980's: the cost of our project ballooned on us, and we are now in a position where we have Fullerton and Elba. That will bring on about another 20,000 acres. That will give us the ability to meet our contractual obligations.

Senator REID. Basically, what this will do is increase the amount of land that can be planted; is that right?

Mr. HUGHES. No; this land is already planted, sir. What this project will do, as I see it, is reserve that great water table, that whole aquifer, that is being drawn down now to irrigate the lands at this river. Flow water will substitute for it. I would say probably 70 or 75 percent of the grounds that we are talking about probably are irrigated now, but they are irrigated from deep wells or irrigated from in-stream flows. This will eliminate the need for electrical motors, electricity needed to generate for the running of these, with the river flow. That eliminates the power sources necessary to supply——

Senator REID. I understand. It also, you have indicated, will preserve the aquifer?

Mr. HUGHES. That is the main important thing at this time; yes. That overall aquifer is probably the largest body of water in this country. It is pure water. When we irrigate out of it, we have seen the water table drop. I think with such projects as this one, due to the percolation of the water, we will probably see that recharging effect, and we will not be drawing on what is down there again.

Senator REID. Thank you very much.

The next witness we will hear from is Michael Shaughnessy, Cedar Valley Reclamation District.

Mr. SHAUGHNESSY. Mr. Chairman, Mr. Vanderloop will speak on behalf of the Cedar Valley Reclamation District.

Senator REID. Will you state your name? Are you Michael Shaughnessy?

Mr. SHAUGHNESSY. Michael Shaughnessy; yes.

LOUP BASIN MANAGEMENT STUDY

STATEMENT OF JAMES VANDERLOOP, SR., SECRETARY-TREASURER, CEDAR VALLEY RECLAMATION DISTRICT

ACCOMPANIED BY:

MICHAEL J. SHAUGHNESSY, ESQ.

LEE SONDERUP, PRESIDENT, CEDAR VALLEY RECLAMATION DISTRICT, GENOA, NE

ROGER HELLBUSCH, BOARD MEMBER, CEDAR VALLEY RECLAMATION DISTRICT, BELGRADE, NE

Mr. VANDERLOOP. Mr. Chairman, I am Jim Vanderloop, secretary-treasurer of the Cedar Valley Reclamation District. You have met Mr. Shaughnessy, our attorney. Also accompanying me is Mr. Lee Sonderup, president of our district, and Mr. Roger Hellbusch, a board member of our district.

Mr. Chairman, we have submitted our testimony to you and I will only make a few remarks from this prepared testimony today on behalf of our cause.

This past year, Mr. Chairman, we have had a preliminary study in the Cedar Valley regarding what we can do with this river and with this water that we have there at this time. However, we feel that we will need a bit more in depth, because we know, just from the study here, that we probably did not go near far enough. Mostly, we will be looking at water quality, a recharge, and probably numerous other environmental things that we are sure we missed.

Mr. Chairman, for this we think we could conduct this for $100,000 and probably come up with a lot of information which we probably might miss if we went ahead without really seeing what we have before we proceed.

Again, Mr. Chairman, we are mostly concerned with this good, clean water which we know we have already, the water quality.

Then, of course, as the gentleman before me remarked, this recharge. We are becoming concerned and we are trying to preserve that.

Mr. Chairman, we thank you for your time and consideration, and we will be glad to try to answer any questions you might have regarding our cause.

Senator Reid. We appreciate, Mr. Shaughnessy, you and Mr. Vanderloop coming and we appreciate very much your being here. Your statement, which I have read, is quite clear and to the point. You received no moneys in the last fiscal year and you have indicated how you think it would be beneficial this year. We appreciate it very much. This is a lot of money by Nevada and Nebraska standards, but by Washington standards it is not much money. Thank you very much.

[The statement follows:]

STATEMENT OF JAMES VANDERLOOP, SR.

Dear Mr. Chairman and Members of the Committee:

My name is Michael J. Shaughnessy of St. Paul, Nebraska. I am an attorney, and I represent the Cedar Valley Reclamation District. I present to you this statement as written testimony on behalf of the Cedar Valley Reclamation District.

With me today is Lee Sonderup, President of the Cedar Valley Reclamation District, James Vanderloop, Sr., Secretary-Treasurer of the Cedar Valley Reclamation District and Roger Hellbusch, Director of the Cedar Valley Reclamation District.

The Bureau of Reclamation has completed a draft of a Special Report for the Cedar River Basin portion of the Loup River Basin Water Management Study. The draft report was completed in February, 1990 and mailed to Nebraska'a Natural Resources Commission and the Cedar Valley Reclamation District Board, and the Great Plains Regional Office of the Bureau of Reclamation for review. The report will not be final until Reclamation's review is completed. Information for this document was derived from the Sandhills Area Study progress reports, other information provided by the Natural Resources Commission, and information produced in Reclamation's Denver Office. Since no funds were budgeted for the Loup Basin Study in FY 1990, the report was completed with money remaining from FY 1989 funding.

Reclamation's Denver Office completed engineering, hydrologic and economic evaluations of two options to use the water and land resources of the basin. The two options were for off-stream storage reservoirs supplied with Cedar River water to irrigate land in the Cedar River Basin. The two options analyzed did not have a favorable benefit/cost ratio when the only benefit was irrigating land to grow corn. Other benefits were not quantified due to budget and time constraints so more study remains to be done. Other benefits that could be attributed to the two options include recreation, ground-water recharge for water quantity and quality improvement, habitat enhancement and stabilizing the Cedar River flow. Public meetings held in Spalding and Fullertin, NE in November, 1988 did not indicate other major problem areas from which to gain benefits.

If additional benefits for recreation, fish and wildlife, flood control, drinking water supply or other benefits were derived from the project, economic justification may be obtained. Further study would have to be done to identify other benefits. One of the purposes of this study was to identify problems in the basin. The B/C anaysis shows that one problem is the crops and prices for that crop that limit the projects that can be proposed for single-purpose irrigation projects.

Producing other crops has been discussed during meetings in the Cedar River Basin. Crops suggested were onions, potatoes, sunflowers, sugar beets, edible beans, asparagus, and cucumbers. These crops have been grown in Nebraska before with success and would diversify the farming operations and stabilize the agricultural economy. These crops if grown in the basin would increase the benefits that could be attributed to irrigation as these crops have a higher price per acre than corn which currently makes up most of the farm production.

One area that was not analyzed in detail is the effect that lower river levels might have on wetlands along the Cedar River. The U.S. Fish and Wildlife Service has identified land along the river which are classified as wetlands. Almost every section of land along the Cedar River has at least 10 acres of wetlands. These acres need special attention when water and land resource projects are proposed and constructed. Since Federal policy is to have no net loss of wetlands, any project development would have to consider the existing wetlands.

As shown in the operation analysis of the reservoirs, water is available from the Cedar River. The amount of water depends on minimum streamflow requirements. The amount of water used for this study, about 50 ft3/s, may be enough to provide an economical irrigation water supply if all the benefits were quantified. Storing surface water in the offstream reservoirs would provide ground-water recharge which would stabilize the ground water levels downstream of the reservoirs and provide substantially more benefits for the project.

A ground-water model that can simulate the upper Cedar River Basin area would be very helpful in determining what effect ground-water irrigation development would have on flows in the river. Alternate strategies could be run through the model and the effect of these strategies on the water supply determined. One of the problems that was mentioned in the public meetings is the drying up of the lower river reaches in some years.

Another use of Cedar River water could be as a high quality water supply for the municipalities in the basin. There are communities that use the river or ground-water that is interconnected with the river for drinking water. The city of Genoa has drilled new wells recently due to high nitrate problems. If an economical water supply could be derived from the Cedar River, all people in the basin could benefit. A rural or municipal water supply would have to have many customers to make the system economical. More study of this problem is needed to quantify the need and costs of this kind of project.

Another solution to this ground-water quantity and quality problem might be a recharge project. This type of project is being investigated by other groups in the state and could be a viable method of supplying high quality water to existing wells. Some parts of the Cedar River Basin experience problems for even domestic use. Recharge is not expected to help these areas because the aquifer is probably not adequate to hold or release water in the quantities needed.

Other studies could be performed in the future to determine the ground-water aquifer characteristics in the whole basin which would give the residents a better idea of how different types of development will affect the water supply. Current public attitudes indicate that people are thinking more about their ground-water quality and quantity. Studies that can determine effects of future activities on the quality and quantity of the ground water before actions occur should be accomplished now and not wait until after an action has taken place.

Government programs have caused some changes in the types of land that are used for crop production. The acres involved in these programs are categorized by the USDA agencies coordinating the programs. These land use restrictions need to be considered when analyzing any developments in the basin. Economics will dictate the use and care given to these lands. Economics will also control what the price of crops are and the economic viability of water resouces project. Project development could stimulate the area and rural economic development.

For these reasons, we are asking the committee's support to fund an additional $100,000.00 to continue the current study benefits which were not analyzed and to do a more thorough reconnaissance study of the Cedar Valley.

We wish to thank the Committee for its continued support.

PLATTE RIVER BANK STABILIZATION DEMONSTRATION PROJECT

STATEMENT OF KENT O. MILLER, P.E., GENERAL MANAGER AND DISTRICT ENGINEER, TWIN PLATTE NATURAL RESOURCES DISTRICT

Senator REID. Kent Miller, general manager of the Twin Platte Natural Resource District.

Mr. MILLER. Thank you, Mr. Chairman. I am Kent Miller, general manager of the Twin Platte Natural Resource District. I am testifying today in regard to a streambank stabilization demonstration project along the Platte River and its tributaries, the North Platte River and the South Platte River in Nebraska. This project was authorized in section 603 of the 1986 Water Resources Development Act.

I first testified before this committee in 1984. Today is the sixth time that I have had the privilege to come before you. I am pleased to report to you that due to this committee's support and subsequent congressional direction that the Corps of Engineers has completed the preliminary studies and have started final design that will be completed in August of this year.

I, therefore, am ready today, after 7 years of planning, to request funding for construction. The demonstration project continues to be an ideal demonstration model of a typical reach of the Platte River system, and it will provide benefits for the entire system and will develop low-cost, self-help methods.

Full funding for construction of this demonstration project is estimated by the Missouri River Division of the Corps of Engineers to be $4 million, and construction can begin this fiscal year. The demonstration project is proposed to be constructed over 5 years. I anticipate that the lost cost-share required will be satisfied with the land rights needed for construction.

Today, I am requesting full funding for construction of this demonstration project in the amount of $4 million for fiscal years 1991 through 1995 and am requesting $1.8 million for construction during fiscal year 1991. I would now like to yield the remainder of my time to Dale Walgren, a farmer along the Platte River and president of the Platte River Flood Control Association.

[The statement follows:]

STATEMENT OF KENT O. MILLER

PROJECT PLATTE RIVER BANK STABILIZATION DEMONSTRATION PROJECT FOR A REACH OF THE PLATTE RIVER BETWEEN HERSHEY, NEBRASKA, AND THE BOUNDARY BETWEEN LINCOLN AND DAWSON COUNTIES, NEBRASKA

SUMMARY REQUESTING FULL FUNDING FOR CONSTRUCTION OF $4,000,000.00 FOR FISCAL YEARS 1991 THRU 1995.

REQUESTING $1,800,000.00 FOR CONSTRUCTION DURING FISCAL YEAR 1991.

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE, I AM KENT O. MILLER, GENERAL MANAGER AND DISTRICT ENGINEER FOR THE TWIN PLATTE NATURAL RESOURCES DISTRICT.

NEBRASKA'S 23 NATURAL RESOURCES DISTRICTS ARE LOCAL POLITICAL SUBDIVISIONS OF THE STATE OF NEBRASKA CREATED TO CONSERVE, PROTECT, DEVELOP AND MANAGE THE NATURAL RESOURCES OF THE STATE.

THE TWIN PLATTE NATURAL RESOURCES DISTRICT IS LOCATED IN WEST CENTRAL NEBRASKA WHERE THE NORTH PLATTE RIVER AND THE SOUTH PLATTE RIVER COME TOGETHER TO FORM THE PLATTE RIVER.

I AM TESTIFYING TODAY IN REGARD TO A STREAMBANK STABILIZATION "DEMONSTRATION PROJECT" ALONG THE PLATTE RIVER AND ITS TRIBUTARIES, THE NORTH PLATTE RIVER AND SOUTH PLATTE RIVER IN LINCOLN COUNTY, NEBRASKA THAT IS AUTHORIZED IN SECTION 603 OF THE 1986 WATER RESOURCES DEVELOPMENT ACT. THE "DEMONSTRATION PROJECT" IS LOCATED IMMEDIATELY ABOVE AND BELOW THE CONFLUENCES OF THE NORTH PLATTE RIVER AND THE SOUTH PLATTE RIVER WITH THE PLATTE RIVER FOR A TOTAL COMBINED AND CONTIGUOUS PROJECT OF APPROXIMATELY 46 RIVER MILES. (See attached map)

I FIRST TESTIFIED BEFORE THIS COMMITTEE IN 1984 FOR THIS "DEMONSTRATION PROJECT". TODAY IS THE 6TH TIME THAT I HAVE HAD THE PRIVILEGE TO COME BEFORE YOU. I AM PLEASED TO REPORT TO YOU THAT DUE TO THIS COMMITTEE'S SUPPORT AND SUBSEQUENT CONGRESSIONAL DIRECTIONS, THE U.S. ARMY CORPS OF ENGINEERS HAVE COMPLETED THE PRELIMINARY STUDIES AND DESIGN AND ARE SCHEDULED TO COMPLETE THE "PLANS AND SPECIFICATIONS" AND FINAL DESIGN IN AUGUST TO COMPLETE PRE-CONSTRUCTION ACTIVITIES. I THEREFORE AM ALSO PLEASED TO REPORT TO YOU TODAY THAT I AM READY, AFTER 7 YEARS OF PLANNING, TO REQUEST FUNDING FOR CONSTRUCTION.

THIS "DEMONSTRATION PROJECT" CONTINUES TO BE AN IDEAL DEMONSTRATION MODEL OF A TYPICAL REACH OF THE PLATTE RIVER SYSTEM THAT WOULD BENEFIT THE ENTIRE BASIN FROM THE KNOWLEDGE GAINED. THE TWIN PLATTE NATURAL RESOURCES DISTRICT AND THE PLATTE RIVER FLOOD CONTROL ASSOCIATION HAVE STRESSED FROM THE BEGINNING THAT THIS SHOULD BE A "DEMONSTRATION PROJECT" TO DEVELOP LOW-COST SELF-HELP METHODS.

THE "DEMONSTRATION PROJECT" DESIGN CONSISTS OF 60 SITES WITH 16 SITES LOCATED ON THE SOUTH PLATTE RIVER, 6 SITES LOCATED ON THE NORTH PLATTE RIVER AND 38 SITES LOCATED ON THE PLATTE RIVER. THE DESIGN UTILIZES MANY ALTERNATIVES USED ON OTHER RIVERS IN DIFFERENT PARTS OF THE COUNTRY TO STUDY THEIR EFFECTIVENESS FOR THE PLATTE RIVER SYSTEM. MANY OF THE ALTERNATIVES IDENTIFIED ARE NONTRADITIONAL EROSION CONTROL METHODS THAT ARE NOT NORMALLY RECOMMENDED BY THE U.S. ARMY CORP OF ENGINEERS. THE TRADITIONAL METHODS PROPOSED ALLOW FOR COMPARISONS TO THE

NONTRADITIONAL METHODS AND SOME OF THE TRADITIONAL METHODS WILL BE MODIFIED FOR STUDY. EACH ALTERNATIVE WAS DESIGNED TO PROVIDE MAXIMUM EROSION PROTECTION USING AVAILABLE, ECONOMICAL AND ENVIRONMENTALLY ACCEPTABLE MATERIALS WHILE PROVIDING DEMONSTRATION VALUE AT EACH SITE.

THIS REACH EXPERIENCES SEVERE STREAMBANK STABILIZATION PROBLEMS ANNUALLY AND WILL PROVIDE IMMEDIATE BENEFITS FOR DEMONSTRATION AND STUDY. CONSTRUCTION OF THIS DEMONSTRATION PROJECT WILL ALLOW THE FEDERAL, STATE AND/OR LOCAL AGENCIES AND THE LANDOWNERS TO OBSERVE IN PLACE ALTERNATIVE DESIGNS AND WILL ALLOW THE LANDOWNERS TO TAKE HOME THE TECHNICAL INFORMATION FOR THE ALTERNATIVES OF INTEREST TO THEM TO PROTECT THEIR RIVER BANKS AND REDUCE THEIR DAMAGE. THE LOCAL PEOPLE WILL THEN BE ABLE TO USE THEIR OWN LABOR AND EQUIPMENT AND LOCALLY AVAILABLE MATERIALS TO BUILD THEIR OWN STREAMBANK PROTECTION FROM THE METHODS THAT ARE PROVEN TO WORK IN THE "DEMONSTRATION PROJECT".

EXAMPLES OF THE ALTERNATIVES PROPOSED ARE FENCE REVETMENTS, TIRE POST RETARDS AND MATS, VEGETATION, TREE RETARDS AND REVETMENTS, BOARD FENCE DIKES, LONGITUDINAL FENCING, STONEFILLED REVETMENTS, FLEXIBLE REVETMENTS, BRUSH DIKES, CABLED BRUSH REVETMENTS, GABION STONE, STONE AND BROKEN CONCRETE REVETMENTS, ROLLED BALE REVETMENTS AND VANE DIKES.

THIS "DEMONSTRATION PROJECT" CONTINUES TO HAVE GOOD LOCAL SUPPORT. DURING 1986 THE U.S. ARMY CORPS OF ENGINEERS DESIGN TEAM PARTICIPATED IN AN OPEN HOUSE IN THE TWIN PLATTE NATURAL RESOURCES DISTRICT OFFICE. THE OPEN HOUSE PROVIDED THE LANDOWNERS OF EACH PROPOSED SITE AN OPPORTUNITY TO MEET INDIVIDUALLY WITH THE DESIGN TEAM AND VIEW THE PRELIMINARY DESIGNS. SIXTY-THREE INDIVIDUALS CAME TO THE OPEN HOUSE ALL OF WHOM SUPPORTED THE PROJECT. EACH INDIVIDUAL HAD A MINIMUM OF AN HOUR WAIT FOR THEIR TURN AND NO ONE LEFT OR COMPLAINED.

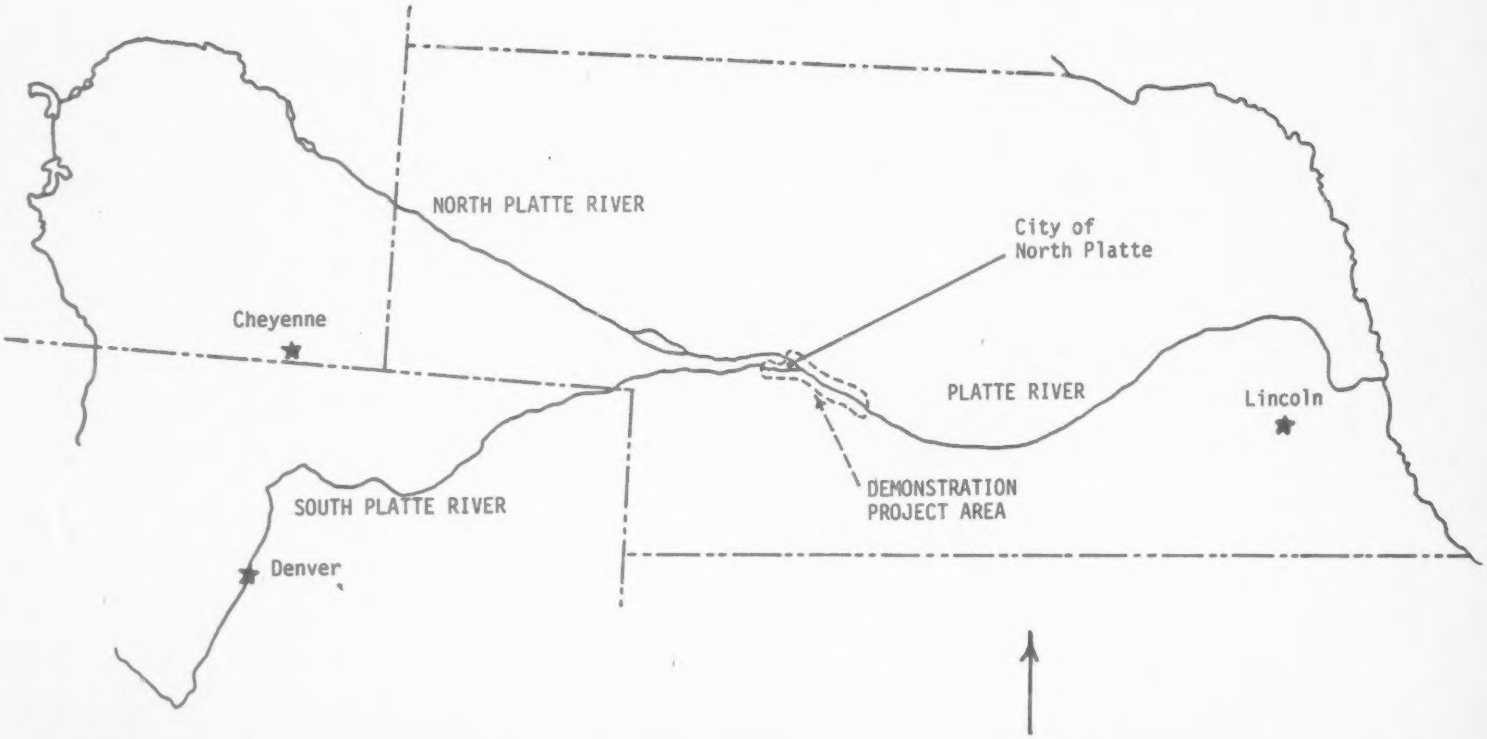
FULL FUNDING FOR CONSTRUCTION OF THIS "DEMONSTRATION PROJECT" IS ESTIMATED BY THE MISSOURI RIVER DIVISION OF THE U.S. ARMY CORP OF ENGINEERS TO BE $4,000,000.00 AND CONSTRUCTION CAN BEGIN IN FISCAL YEAR 1991. THE "DEMONSTRATION PROJECT" IS PROPOSED TO BE CONSTRUCTED OVER 5 YEARS. THE SCHEDULE PROPOSED FOR FUNDING IS:

1991 FISCAL YEAR	$1,800,000.00
1992 FISCAL YEAR	1,000,000.00
1993 FISCAL YEAR	600,000.00
1994 FISCAL YEAR	400,000.00
1995 FISCAL YEAR	200,000.00

I ANTICIPATE THAT THE LOCAL COST SHARE REQUIRED WILL BE SATISFIED WITH THE LAND RIGHTS NEEDED FOR CONSTRUCTION.

TODAY, I AM REQUESTING FULL FUNDING FOR CONSTRUCTION OF THIS "DEMONSTRATION PROJECT" IN THE AMOUNT OF $4,000,000.00 FOR FISCAL YEARS 1991 THRU 1995 AND I AM REQUESTING $1,800,000.00 FOR CONSTRUCTION DURING FISCAL YEAR 1991.

I WANT TO THANK THE COMMITTEE FOR THE CONTINUING SUPPORT FOR THIS STREAMBANK STABILIZATION "DEMONSTRATION PROJECT" AND FOR THE OPPORTUNITY TO APPEAR BEFORE YOU TODAY. I ALSO WANT TO ACKNOWLEDGE AND THANK BEFORE THIS COMMITTEE OUR FINE SENATORS J.JAMES EXON AND BOB KERREY FOR THEIR CONTINUED SUPPORT AND DEDICATION TO NATURAL RESOURCES IN NEBRASKA AND THROUGHOUT THE ENTIRE UNITED STATES.


NORTH PLATTE RIVER
City of
North Platte
Cheyenne
PLATTE RIVER
Lincoln
DEMONSTRATION
PROJECT AREA
SOUTH PLATTE RIVER
Denver

STATEMENT OF DALE WALGREN, PRESIDENT, PLATTE RIVER FLOOD CONTROL ASSOCIATION

Mr. **WALGREN**. Mr. Chairman, I am here today representing this association and also representing myself as a landowner and a farmer in the project area. The Platte River Flood Control Association is representative of primarily landowners and farm ranch operators along the North Platte, South Platte, and the Platte Rivers in Nebraska. Our purpose is to find solutions to the problems of flooding and erosion that continually affect the Platte River system.

In discussing the problems on the Platte River system, it must be noted that many of the problems have been created by several actions of both public and private sources. The building of several dams and storage facilities in the Platte system and its tributaries has reduced flows in the river and has allowed a narrowing of the channels and a reducing carrying capacity. When we have excess flows, as we periodically do, severe bank erosion occurs, and losses of that bank, in turn, causes more and more flood damage when high water occurs.

We cannot, nor do we want to, turn back the clock on development that has occurred or minimize the enormous benefit that dams and storage of water has done for the irrigation and power development in the State of Nebraska, but we must realize there is a price to pay for controlling a river as we have with the Platte River system. That price must include maintenance of the river system system, as we have proposed with this project. Erosion figures from the section 55 study show that we lost 175 acres per year over a 10-year period from 1975 to 1984.

We have built into this project the aspect of demonstration so that other entities and landowners themselves can look at the varied methods of river bank stabilization and come away with one that can both be financially feasible for the farmers and environmentally enhancing. The Federal Government cannot afford to fix all the problems we face on the Platte River, but it also cannot afford to not show us how to fix some of the problems that we face. We have built demonstration into this project for that very purpose.

I want to thank the Subcommittee on Energy and Water Development of the Appropriations Committee for their continued support and funding of the Platte River bank stabilization project. If there are any questions, we would be willing to answer those at this time.

Senator **REID**. Being from a desert State, there are some things here that I have never heard. What is a "fence revetment"?

Mr. **MILLER**. It's a method where they just place fencing material of various different types, wiring or wood type, into the river to help stabilize the bank. The flowing sand that is in this particular river then would be able to be built up behind that and stabilize the bank. It may or may not work, but it is an attempt to develop some measures that the local farmer can afford to do on their own. Now we see in the river car bodies, and car bodies are not appealing or desirable for anybody. It is just one of many methods that they are attempting to use. Tires, fences, tree stumps, et cetera.

Senator **REID**. I see "tire post retards"?

Mr. **Miller**. That would be a case where they would take tires and chain them together between posts. Again, it is an attempt to be a low-cost method to protect that bank. Senator, we are not sure if these will work. What we know works is rock and concrete, but we also know that the farmers cannot afford to do that on their own.

Senator **Reid**. Interesting. "Rolled bale revetments"?

Mr. **Miller**. That is an attempt to use bales of hay to do the same thing. Again, they are materials that are available, that farmers can use on their own.

Senator **Reid**. What is a "vane dike"?

Mr. **Miller**. That one you got me on. I cannot explain that one, sir. I know it is in there, but I am not that familiar with that particular suggestion that the Corps has proposed.

Senator **Reid**. Well, you failed that question. That's all you get.

Mr. **Walgren**. One comment on this. All of these have been developed through Corps investigation and they have been used in other parts of the country, not on the Platte River system. One of the other situations that you may understand here, the farmers will try to stabilize the banks of the rivers along their farms, and that is where the car bodies and some of the other methods have come into play. We would like to provide methods that both are good for the environment and are cost effective.

Senator **Reid**. Thank you very much.

Mr. **Miller**. Thank you. I appreciate the questions, even though I did not get them all answered.

Senator **Reid**. You passed, though; you got most of them right. The next witness will be Lyman Ginger, executive director of the Cardinal Hill Hospital.

ARC Satellite Health Care Facilities

STATEMENT OF LYMAN V. GINGER, EXECUTIVE DIRECTOR, CARDINAL HILL HOSPITAL, LEXINGTON, KY

Mr. **Ginger**. Thank you very much. Mr. Chairman and members of the subcommittee, I want to thank you on behalf of the board of trustees for permitting me to appear before you today and to present this information regarding the request that we have prepared.

Cardinal Hill Hospital is a rehabilitation hospital located in Lexington, KY. In its location, it is the only rehab hospital between Louisville and West Virginia, between northern Kentucky and the Tennessee border. This places us in the position of serving more than one-half of the State. We are licensed for 100 beds and have functioned in that way for some several years. For every in-patient we have come to the hospital, we treat also those who come to us from the neighboring regions, approximately 10 persons who are suffering either from stroke, head injury, spinal cord injury, or related kinds of problems.

Cardinal Hill is not able to serve the entire region that is in the area for which we are requesting some assistance. As a nonprofit hospital, it is necessary for us to function with outside contributions. When we add to our hospital, which we have recently, we added about a $7 million expansion, and the public paid for that from donations, contributions, and the like.

In the last 4 years, we have been working with the region of Appalachia. We are serving currently a program that includes a section of West Virginia, sections that surround Ashland, sections around South Williamson, and in Tennessee. We have patients from every county in the State, as well as from 18 other States. So the reputation of the hospital has been fairly established.

I cannot explain this, and neither can the researchers from the University of Kentucky who have tried to analyze it. It happens that there is a strip through the Appalachian region where stroke is the highest in the Nation per capita. There is another one almost like it in the western area. There is no explanation for this, but the need is great for the treatment of head injury, spinal cord, and especially for stroke.

So the proposal that we are bringing before you is the establishment of satellite programs, since there are no other services that can be provided in that region. The satellite programs that we are proposing would be established from one end of that mountain region to the other and would serve sections of West Virginia, sections of Tennessee, and piece of Ohio that would be up near Ashland, KY.

The programs we are proposing are satellite programs that would be funded from and operated out of the Lexington center. It is our firm belief, because of the effect we have had and the results we have had so far, that this kind of treatment and this kind of expansion of health service would be of invaluable aid to that entire region. When we consider that the high rate of incidence in that area is so great, and those people are not going anywhere for treatment, our area proposal, which would be the satellites, which would provide services in at least 9 or 10 different parts of the region, would enable us to diagnose, propose, refer these people to places where they could go for additional help, and, in addition, provide the help that they would need.

With this as a part of the proposal, and the kind of service that we are proposing, we are sure that with the cooperation we have already enlisted from the hospitals of the region that we will be able to provide the rehabilitation program that will be functioning in a way that would give the service that these people have never had.

As a nonprofit hospital, we believe that this service can be provided only if we have the equipment, the facility, the x-rays needed, and this is absolutely essential in the diagnosis of the patient. We believe that this kind of service which we have not had before for this large number of people, which covers a section of West Virginia, that mountain region of Kentucky, and a little piece of Tennessee in the south part.

So we are recommending and appreciate very much your hearing what we have had to say, in terms of the need for health services in this particular area of service, and we know that if this can be done, if some of the things that were covered in the Washington Post recently, covering rebuilding a full life, recovery means restoring choices. We have had this happen with thousands of cases. Since we are dealing with this every day, and with a faculty that is a part of the University of Kentucky specialists' faculty, we are certain that services that these people have never had can be provided for this kind of expansion of service from there. Thank you very much.

Senator REID. How many bed hospital is this?

Mr. GINGER. We have a 100-bed hospital.

Senator REID. It is a small hospital.

Mr. GINGER. Yes, sir; but it is the largest rehabilitation hospital in the State.

Senator REID. I was interested in some of these statistics that you have given. Kentucky residents suffer 15,000 strokes per year, twice the national average?

Mr. GINGER. Yes, sir; that is correct.

Senator REID. Kentucky residents sustain twice the national average per year of spinal cord injuries resulting in paralysis?

Mr. GINGER. Yes, sir.

Senator REID. Kentucky residents have a traumatic accident rate that is about 15 percent higher than the national average?

Mr. GINGER. That is correct.

Senator REID. Kentucky residents sustain traumatic head injuries at a rate that is 25 percent higher than the national average?

Mr. GINGER. Yes, sir.

Senator REID. Kentucky residents have three times the national rate of diabetes?

Mr. GINGER. Yes, sir.

Senator REID. Residents of Appalachian eastern Kentucky have five to six times the national average of diabetes?

Mr. GINGER. Yes, sir.

Senator REID. Kentucky has twice the national average rate of births to Caucasian teenage mothers. These newborns are at increased risk for extreme prematurity. Why? Has anyone tried to figure out why Kentucky is so high in these various areas?

Mr. GINGER. Our researchers from the University of Kentucky, in cooperation with our staff, have tried to analyze these figures to determine why this is true. Part of this we think can explain. The nature of the worker will account for some of the accidental injuries that occur in the mining sections and in the trucking business that goes on throughout that area. A part of that we can explain partially, but the other part that has to do with why this is so high for stroke and why it is so high for the complications that result from stroke and from spinal cord injuries, we are not able to answer. The people who did the reseach and have been doing it now for the last 10 to 12 years are not able to give us any answer except that these are the raw facts about what is happening.

Senator REID. Thank you very much for your most interesting testimony. Senator Ford has contacted the committee regarding this and has indicated his total support of your request. He has personally said what a fine institution you have and what a great benefit it is to the State of Kentucky. Because of your testimony and especially because of Senator Ford's interest in this area, we will take a very close look at it. We are not in the habit of funding programs like this, but based upon Senator Ford's interest and your testimony, we will take a close look at it.

Mr. GINGER. We thank you very much. Operating as Cardinal Hill does, as a nonprofit hospital, we receive a tremendous amount of support from outside sources. This is a program that we are certain can make a difference, maybe not change it dramatically in the next year or two but we know it can make a difference in the future. Thank you very much, sir.

Senator REID. You are welcome.

[The statement follows:]

STATEMENT OF LYMAN V. GINGER

CARDINAL HILL HOSPITAL

Cardinal Hill is accredited by CARF and is a free-standing, non-profit hospital located in Lexington, Kentucky. It received patients from every county in the Commonwealth of Kentucky and from 18 other states in 1989. It receives slightly more than one-third of its patients from the Appalachian region of Kentucky and West Virginia.

INPATIENT AND OUTPATIENT PROGRAMS

Cardinal Hill provides inpatient programs in stroke, spinal cord, head injury, amputee, arthritis, neuromuscular and orthopedic rehabilitation. Outpatient programs are provided for comprehensive pain management, work hardening, and developmental stimulation therapy (preschool).

PROPOSED SATELLITE CENTERS

It is proposed that Satellite Centers be established in ten locations in the Appalachian region of Kentucky for the purpose of evaluating persons who have suffered any of the catastrophic events mentioned above. The evaluation would be made by specialists and programs would be recommended for the patients, some of whom might be referred to the Hospital for inpatient treatment, others for outpatient treatment, and a carefully designed program of follow-up treatment for rehabilitation would be conducted in each of the Centers.

Contacts have already been made with doctors, health care providers, and hospitals located in the Appalachian region from the northern tip to the southern area which would cover about 300 miles.

The Satellite Centers would be distributed in such a way that outpatient treatment and services could be provided to all of this region in Kentucky and in parts of West Virginia, Ohio, and Tennessee.

Renovated buildings and newly built buildings will be equipped and provided with modern, up-to-date equipment for the very best treatment of these patients.

Funds are being requested to purchase equipment, build or remodel buildings and to purchase mobile units at a total cost of approximately $9.2 million.

I. INTRODUCTION

Cardinal Hill Hospital is a non-profit rehabilitation hospital located in Lexington, Kentucky. It is the only rehabilitation hospital between Louisville, Kentucky and the West Virginia border and between Northern Kentucky and the Tennessee border on the south. Cardinal Hill is the hub of rehabilitation activity for almost one-half of the Commonwealth and, last year, accepted patients from every county in the state, as well as from 18 other states. Cardinal Hill Hospital currently provides inpatient specialty programs for patients with stroke, spinal cord injury, and neuromuscular and orthopedic disabilities. The Hospital's outpatient specialty programs include preschool developmental stimulation, comprehensive pain management, occupational medicine, and outpatient therapeutic services primarily for residents of the Lexington area.

The need for rehabilitation services became so great in this region that the Board of Trustees of Cardinal Hill Hospital riased more than $7 million from interested citizens and corporations to expand the Hospital by adding 70 beds with other appropriate facilities to provide a program that is nationally accredited and one of the outstanding programs in the United States.

Even though Cardinal Hill is not a charity hospital, it provides a substantial amount of service for patients who are unable to pay by either not having sufficient insurance coverage or by requiring treatment for such a long period that their insurance coverage is exhausted.

Once patients have completed their inpatient program, it is to their advantage to return to the Hospital for outpatient treatment for varying lengths of time. Most of these patients are unable to travel back to the Hospital for follow-up treatment from distances that exceed 50-60 miles; therefore, follow-up treatment is almost completely lacking for these patients from Eastern Kentucky.

II. THE APPALACHIAN POPULATION: CHARACTERISTICS AND REHABILITATION NEEDS

In 1986, the U.S. Census Bureau estimated that 1,600,000 people were resident in the 57 counties of the 8 primarily rural Kentucky Area Development Districts served by Cardinal Hill. In 1989, the Kentucky residents of Appalachia are likely to sustain trauma and disease-related disabilities at a rate significantly higher than the national norms. Without access to appropriate comprehensive medical rehabilitation facilities, a disproportionately high number of patients will be vocationally handicapped or unemployable, and financially dependent upon federal, state, and private disability programs unnecessarily as a result of untreated physical and cognitive functional impairments. The limitation imposed upon them by disability will be compounded by social, economic, and educational conditions which are among the lowest in the country.

Despite the increased need for rehabilitation services already outlined, only 3.2 percent of all rehabilitation hospitals are located in the east south-central United States, and only Cardinal Hill Hospital is in this entire geographic area of Eastern Kentucky.

III. THE NEED FOR APPALACHIAN REGIONAL OUTPATIENT REHABILITATION SERVICES

Information compiled by Appalachian Regional Healthcare, the University of Kentucky, the Kentucky Head Injury Foundation, and the Kentucky State Cabinet for Human Resources indicates a disproportionately high incidence of disabling conditions in the state of Kentucky (most notably in the Appalachian region) as compared with national figures, while the number of treatment centers in the Appalachian region are practically non-existent and are entirely inadequate for service for this area.

- Kentucky residents suffer 15,000 strokes per year--twice the national average. They live in what is known as the "stroke belt," primarily in the southeastern United States.
- Kentucky residents sustain twice the national average per year of spinal cord injuries resulting in paralysis.
- Kentucky residents have a traumatic accident rate that is 14-16 percent higher than the national average. Residents of Appalachian Eastern Kentucky have an accident rate that exceeds that of the state as a whole by an additional 20 percent.
- Kentucky residents sustain traumatic head injuries at an annual rate that is 25 percent higher than the national average.
- Kentucky residents have three times the national rate of diabetes. Residents of Appalachian Eastern Kentucky have five to six times the national rate of diabetes.
- Kentucky has twice the national average rate of births to Caucasian teenage mothers. These newborns are at increased risk for extreme prematurity and at high risk for severe developmental delays.

Despite recent advances in knowledge and treatment modalities, there are three areas of glaring deficiency:

- First, the lack of timely access to appropriate comprehensive, acute rehabilitation facilities for all the disabled.
- Second, the lack of outpatient and follow-up treatment facilities in the local communities.

- Third, the lack of educational efforts in the area of preventing disability and the failure to teach family members how to provide appropriate care for the patients.

IV. REGIONAL OUTREACH COMPONENTS - 1991-1994

For the past three years, selected personnel of Cardinal Hill Hospital have been collecting data and developing a net-work for services that can enable the central population of the Appalachian region, including some areas in West Virginia, Ohio, and Tennessee, to receive much needed rehabilitative care and treatment. The most strategic locations have already been identified, contacts have been made with doctors and local health service providers and arrangements have been made either for renting available space or for constructing adequate clinic space to provide the area with facilities for folow-up treatment. These facilities would be used for original evaluations and recommendations to patients. The patient, once evaluated, might come to Cardinal Hill Hospital for intensive inpatient treatment and, when the appropriate time came, would go home to receive outpatient treatment in one of the Satellite Centers being planned. This net-work would include the establishment of 8-10 satellite centers and four mobile units that would utilize both Cardinal Hill Hospital personnel and existing community resources to deliver services.

The rural satellite centers will be placed strategically throughout the Appalachian counties, enabling most of the residents to be within no more than a 30-mile radius of services.

Cardinal Hill Hospital personnel--physical, occupational, and speech therapists, physiatrists, nurses, social workers, psychologists, and vacational counselors--will be utilized to develop, train, and staff the locally based service components. These Centers will:

- identify those patients in need of rehabilitation services as soon as possible after the onset of disability, to assure timely access to comprehensive acute rehabilitation,
- evaluate the ongoing rehabilitation needs of the patient and coordinate the provision of those services through available resources by working cooperatively with the local health care providers in these clinics to increase the local knowledge base in the prevention, evaluation, and treatment of rehabilitation problems, and provide comprehensive outpatient therapeutic treatment,
- provide follow-up care for patients who have completed acute rehabilitation, focusing on the medical and educational services necessary to prevent development of secondary complications and maintaining the patient at home or in the least restrictive level of institutional care,
- coordinate the allocation of available resources to facilitate the patient's community re-integration and return to work.

V. IMPLEMENTATION

From the information secured as to the cost of building, renovation, and securing equipment, the total cost will be between $9.3 and $9.7 million. The breakdown is as follows:

Four mobile units completely equipped ($250,000 each)	$ 1,000,000
Two X-ray units installed in strategic locations ($200,000 each)	400,000
A complete computer system to tie the Centers together and to tie them in to Cardinal-Hill Hospital as a central location	500,000

After funds are secured, Cardinal Hill Hospital is prepared to begin immediately to develop the following Satellite Centers:

Ashland, KY (to serve Huntington, West Virginia, Ironton, Ohio and other location in that northeastern area). This will anchor the northeastern end of the geographic area.	$ 1,000,000
Somerset, KY - rental and equipment. This will anchor the south central end of the geographic area.	600,000
Pikeville will serve the east central area	750,000
South Williamson, KY will serve Kentucky and the West virginia area	650,000
Appalachian Regional Hospital, Hazard, Kentucky	600,000
Kent Krum Speech clinic, Hazard, Kentucky	400,000
Corbin Baptist Hospital	500,000
Hindman (Alice Lloyd College or Hindman Settlement School)	700,000
Carl Perkins Vocational Center	700,000
Morehead	600,000
Breathitt County	800,000
	$ 9,200,000

VI. CONCLUSION

Cardinal Hill Hospital is highly regarded in the field of rehabilitation and is prepared to provide the leadership and specialized resources required to develop and implement such regional Centers for the disabled. The Hospital is uniquely suited to this task, and the Board of Trustees' commitment to this effort is reflected in the completion of the new addition to the Hospital in 1988. Cardinal Hill Hospital is requesting assistance from the Federal Government to provide an appropriation to implement these regional Centers.

The priorities that we have established for beginning the project are to secure the mobile units, the necessary X-ray equipment, and the computer system first. While this is being done, we will begin the establishment of the Ashland Satellite Center, the Somerset Center, and the South Williamson Center in Pike County. As soon as these are nearing completion, we expect to begin with the Hazard Center, the Corbin Center, and the Hindman Center. After these are completed, the remaining Centers will be established.

NEBRASKA WATER RESOURCE PROJECTS

STATEMENT OF HON. J. ROBERT KERREY, U.S. SENATOR FROM NEBRASKA

Senator **REID**. Senator Kerrey, a member of the committee, is here.

Senator Kerrey, we had the good fortune this morning of being able to listen to the senior senator, your colleague, Senator Exon. We have also had the benefit of the testimony of some of your constituents. We have had Michael Jess, Alfred Drayton, Donald Hughes, Michael Shaughnessy, and Kent Miller, all giving very interesting testimony relating to specific problems that affect the State of Nebraska.

Would you proceed now, Senator?

Senator KERREY. Thank you, Senator Reid. Mr. Chairman, you can tell from the number of people who have already testified, as well as some who were not able because of time constraints to testify how important water is to the State. I have a number of individuals, including Loup Basin Reclamation and the Missouri River Bank Stabilization Association, the Central Platte Natural Resources District, and the Papio-Missouri River Natural Resources District that would like to have their testimony as part of the record. I would simply offer it at this time.

Senator REID. That will be the order.

Senator KERREY. I will try to summarize, Mr. Chairman, and again ask consent to have the full text of my remarks included in the record.

Senator REID. That also will be the order.

Senator KERREY. I want to thank the committee for the addition of the $16.9 million for the Davis Creek Dam. This is an essential part of the North Loup project. With the inclusion of the project this year, we are moving very rapidly toward a conclusion. Second, I want to note that the number of budgeted projects within the jurisdiction of the Corps and the Bureau, which local sponsors and I all urge that they be retained. Third, I would like—and do in great detail in my written testimony—to bring to the subcommittee's attention several situations that I think merit special attention, some of which have already been addressed by both Senator Exon and Michael Jess from the Department of Water Resources in the State of Nebraska.

MISSOURI RIVER FISH AND WILDLIFE MITIGATION PROJECT

The first one, Mr. Chairman, is the Missouri River mitigation program. We actually believe that a $3 million appropriation in the end is going to be the level that will be needed in order to complete this project. We understand that we just got it started last year with $300,000. There is $429,000 in the budget request this year. I will not go on at length about this, but I believe it is long overdue that we complete the mitigation program.

Similarly, the Missouri River National Recreation River, after the channelization of the Missouri River, there is a portion that is considered to be "wild Missouri" that has been left in its natural state. It carries a wild and scenic river designation, and it is important as well that we continue the O&M funding and the construction funds that have been requested. I hope that the subcommittee is able to include those.

Third, the Platte River bank stabilization program is also extremely important for us. It is exciting; it is much needed. There is a detailed plan that has been presented to the subcommittee. There is a capability of about $1.8 million and I would ask the subcommittee to look favorably upon that request.

The Cedar Valley Reclamation District—for some years this district has been seeking to develop a program to secure the water resources of this basin. There is a study, based to some extent upon other studies. It has been completed now, although we believe some refinement is necessary in order to review the benefits. We are requesting $100,000 to continue the study and I hope that this as well is given full consideration.

The Sargent Irrigation District has been working with local bureau officials as well, and they are seeking $200,000. Prairie Bend, which is the last one, I would also call to the subcommittee's attention in particular. This has been a much-troubled project. It is a project that I think deserves particular attention, because I believe in the end it will be a project where we will be able to resolve the differences between the environmental interests and the developmental interests in a satisfactory way.

Moreover, Mr. Chairman, I believe that though it is a significant barrier to cross, we will also be able, if this project reaches that point, to come to the Federal Government and say that we have a significant State match that we are offering in the new age of water development. So I hope that the $200,000 to study this revised version is given full attention.

I simply will reiterate what the senior senator has already said. That is that it is obvious from this long list how important water is to an area that the geologists consider to be semiarid. Those of us who live there also acknowledge that we need to make an effort to develop our resources. We also understand the need to protect and the need to recognize other uses for the streamflow and have done so, it seems to me, rather significantly in the decade of the 1980's.

I would finally say, Mr. Chairman, that the local sponsors of a Corps project are being asked to assume new and greater liability for investigations and cleanups of toxic and hazardous wastes which may be found on property acquired for projects. While I believe in and strongly support the cleaning up of these wastes, the responsibilities which these sponsors are being asked to assume carries a very severe and also significantly unknown financial liability. I understand that perhaps hundreds of projects, not just in Nebraska but throughout the country, are affected. I believe strongly that a review of this general policy needs to occur. I thank you again for your indulgence in my being late, and your indulgence in my running a bit over in my testimony here.

Senator REID. Your testimony has been very good. In that this is a national legislature, I think it is important that we learn as much as we can about the problems that other States have. The problems that Nebraska has, that have been testified to here today by you and your constituents, certainly indicate the difference between an arid State like Nevada, a desert State, and Nebraska. Even though with the new conservation measures and some of the other testimony that we have heard today, there are now means underway to stop the pulling of water out of the aquifers, the one aquifer that runs through Nebraska. That has been most interesting. The river bank erosion, which is not a problem—we have so few rivers in Nevada, first of all. I have never heard of that problem before today, river bank erosion, and the unique ways that the farmers themselves have tried to stop that. There should be some national attention focused on this unique environmental problem that has developed.

So I appreciate very much your lending your voice to those of your constituents. You have been a great addition to this committee since coming to Washington and we certainly will, with your voice on the committee, take everything even that much more seriously than we have. Thank you for your testimony.

Senator Domenici, do you have anything?

Senator **Domenici**. I just want to echo what you have said, Mr. Chairman, and thank Senator Kerrey for explaining these issues. It is little known out there in the country that in an energy and water bill on appropriations up here in the U.S. Congress that we have literally scores of local issues that are as significant as the ones you have testified to that come within the purview of one or more of our activities that are ongoing and managed and run by line agencies of the Federal Government, either in whole or in part, it is always good for us to find out from the people how important they are. You, as their spokesman, have done a good job in letting us know today. I concur with you that even though we get only a certain allocation of money, what you are asking for is not unreasonable, and we are hopeful that we can be helpful.

Senator **Kerrey**. Thank you, Senator.

Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF SENATOR J. ROBERT KERREY

Senator Reid, thank you for chairing these hearings this morning and for taking testimony on our Nebraska projects.

As you know, we will hear directly from the Nebraska State Department of Water Resources and from representatives of the O'Neill Unit, North Loup Division, Loup Basin Management Study and Platte River Bank Stabilization Program. In addition, representatives from Iowa will testify on the Missouri River Mitigation Program and the Missouri National Recreation River, both of which are also important to my State.

Due to time constraints, some of those wishing to testify were not granted time. I would like to submit a statement from the Farwell and Sargent Units. Others, including ones from the Central Platte Natural Resources District and the Papio-Missouri River Natural Resources District, will be forwarded to the Subcommittee. If there are further statements, I would ask that they be reviewed and included in the printed hearing record.

First, I would like to thank the Subcommittee for its addition of $16.9 million last year for the Davis Creek Dam, which is an essential part of the North Loup Project. Davis Creek was not budgeted last year, but with its inclusion the project is moving toward completion. I have been advised that the Davis Creek Dam may be completed as much as 10 months ahead of schedule. The $21.6 million budgeted for fiscal 1991 will move us well toward completion of the entire project.

Secondly, I would note that there are a number of budgeted projects under the jurisdiction of the Corps and the Bureau of Reclamation, which the State, the local sponsors and I all urge be retained. These are:

Antelope Creek -- $21,000

Wood River -- $178,000

Gavins Point Dam -- $5,144,000

Harlan County Lake -- $1,296,000

Papillion Creek -- $4,185,000

Salt Creek -- $660,000

Missouri National Recreation River -- $83,000

Farwell Unit -- $460,000

O'Neill Unit -- $700,000

Groundwater Recharge -- $4,500,000

Section 1135 -- $5,000,000 (includes $900,000 for Nebraska)

Missouri River Mitigation -- $429,000

North Loup Project -- $21,646,000

Thirdly, I want to bring the Subcommittee's attention to several situations, which I believe merit special attention.

Missouri River Mitigation Program -- last year we were able to initiate planning for this program with a $300,000 Congressional appropriation. This year the budget request is $429,000. While I am pleased that the program has finally been included in the budget, the funding is really only a drop in the proverbial bucket -- and a small drop at that. My State of Nebraska has, for all practical purposes, completed its planning process, identified areas to be acquired, and is ready to move ahead. We have a $50+ million program in the four affected states, which will restore wetlands and oxbow lakes for fish and wildlife habitats. If we are committed to preservation and restoration of wetlands, there is no better place to start. The loss of lands along the Missouri resulted from federal action -- from channelization which has certainly had its benefits -- but preservation of wetlands was not one of those. I believe we should move forward with the program, and I would like to see $3 million included for it.

Missouri National Recreation River -- While much of the Missouri has been channelized, there is a portion of the "wild Missouri" which has been left in its natural state. This 59-mile section which carries a Wild and Scenic River designation is an important part of our heritage, yet by its very nature there are erosion problems and continuing need for repair work. It is a small price to pay for preservation in this natural state. The Missouri River Bank Stabilization Association will request $200,000 in O&M funding and $1.06 million in construction funds for the river area. I urge the Subcommittee to include these funds.

Platte River Bank Stabilization Program -- for some years now the Twin Platte Natural Resources District has been planning and designing an innovative program to demonstrate low-cost means of bank stabilization which individual landowners can employ. These would include log cribbing, brush dikes, wood and wire fencing, cabled brush revetments, broken stone and concrete revetments and similar technologies. The idea is to develop inexpensive means of controlling erosion which landowners themselves can build and prepare. In view of the widespread streambank erosion problems, it is an exciting and much needed plan. There is a capability of about $1.8 million, which I would also ask the Subcommittee to look favorably upon.

Cedar Valley Reclamation District -- for some years the Cedar Valley Reclamation District has been seeking to develop a program to secure the water resources of the Cedar River Basin. A study, based to some extent upon other studies has been completed, but some refinement is necessary in order to review some benefits which were not previously examined. This District is seeking an additional $100,000 to continue this study, which seems appropriate in view of the expenditures which have already been made.

Sargent Irrigation District -- the Sargent Irrigation District has been working with local Bureau of Reclamation officials to develop a program to rehabilitate the distribution system. It is seeking a $200,000 appropriation for use in implementing a rehabilitation and betterment program. Again, I urge your favorable consideration.

Prairie Bend -- finally, I would like to call the Subcommittee's attention to a request which will be forthcoming from the Central Platte Natural Resources District for $200,000 to study a revised version of a project which has been under consideration for some years. In fact, a draft Environemntal Impact Statement was recently completetd on the large project, which is being revised to accomodate a number of considerations. While there are questions yet to be answered regarding the revised Prairie Bend project,review of the new proposal only makes sense.

Before closing, I would like to mention one other situation to the Subcommittee. Apparently, local sponsors of Corps projects are being asked to assume new and greater liability for investigations and cleanups of toxic and hazardous wastes which may be found on property acquired for projects. While such wastes must be cleaned up, the responsibilities which these sponsors are being asked to assume carry a potentially severe, but unknown financial liability. I understand that perhaps hundreds of projects are affected, and believe that a review of the policy in general is required.

Thank you again for hearing our State's witnesses.

MISSOURI RIVER FISH AND WILDLIFE MITIGATION PROJECT

STATEMENT OF J. EDWARD BROWN, STATE WATER COORDINATOR, IOWA DEPARTMENT OF NATURAL RESOURCES

ACCOMPANIED BY STEVEN ADAMS, AQUATIC ECOLOGIST, KANSAS DEPARTMENT OF WILDLIFE AND PARKS

Senator **REID**. The next witness will be J. Edward Brown of the Iowa Department of Natural Resources.

Mr. Brown?

Mr. **BROWN**. Thank you, Mr. Chairman. With me today is Steve Adams of the Kansas Department of Wildlife and Parks. Unfortunately, Mr. Whiting from Whiting, IA, who is a farmer in Iowa, who is also interested in this program, could not be with us right now.

I would like to thank you for the opportunity to speak today and also to thank you for your past support of this program last year, which was very good in terms of getting the Missouri River mitigation program started. From the standpoint of an opportunity to go from a program that was a discussion item to one that has involved the Corps of Engineers, in terms of actually beginning the process of implementation, has been a matter of considerable fondness in terms of the way our citizens have looked upon the prospect of actually seeing something after many years of discussion about this program.

I had an opportunity to go out to western Iowa in about July, and the conditions there I would have to say are fairly appalling from the standpoint of the impact not only of the degradation of the Missouri River downstream from the reservoir systems, but also from the standpoint of the drought conditions that affect the whole basin. The result of that has been that Oxbow Lakes and wetlands that have previously been a source of wildlife habitat, a source of fisheries, a source of recreation, have become basically either small puddles or dried-up areas that are of no aquatic or fishery value and provide precious little in the way of fish and wildlife habitat.

From the standpoint of the program, I think my written testimony gives you some more details in regard to the Missouri River mitigation effort. We are asking that, in addition to support of the budget item that is in the President's budget, which calls for completion of the planning and design activity, that specific language be included in the appropriation that allows for spending of any leftover moneys from planning and design on construction. We share the thought of Senator Kerrey that it would be appropriate to attempt to try to provide a total of $3 million for some beginning construction activity in this program, if it is possible to find it within the Corps' budget.

Finally, I would like to suggest to you that we are very happy to see the program is on its way. We appreciate your support. We see the losses continuing to build up and we are hopeful now that the start of this program will mean that we are going to see some relief in that area. We have seen also a larger support effort.

From the standpoint of my testimony, I realize that I did neglect to provide you as well with a copy of a letter from the four Governors of the States to President Bush, which I thought might be an appropriate thing as well.

Senator **Reid**. That will be made part of the record. We appreciate your bringing it to our attention.

Mr. **Brown**. Otherwise, I would be also happy to tell you what the term "vanes" in testimony provided previously was, if you would like.

Senator **Reid**. I would like that.

Mr. **Brown**. We do use vanes in Iowa. We also have problems with the erosion of streambanks. What it amounts to is, they place a series of structures upstream of an area that could be subject to erosion—for example, a bend in a stream. What it does is, these different structures, which look almost like wings, tend to reduce the force of the water and redirect it toward the center of the channel so that it does not scour that area. It is very useful for protecting bridges and structures like that.

Senator **Reid**. Interesting. You are fortunate in that there has been this money included in the President's budget.

Mr. **Brown**. Yes, sir; we are real appreciative of that.

Senator **Reid**. That is always a step in the right direction. I have no further questions.

[The statement follows:]

STATEMENT OF J. EDWARD BROWN

I come here today to thank the members of this subcommittee for your assistance last year in providing funds for protection of the environmental and economic value of fish and wildlife habitat within the boundaries of the two national river systems which serve as Iowa's eastern and western borders. I also hope that this testimony will convince you to continue that commitment for fiscal year 1991.

MISSOURI RIVER FISH AND WILDLIFE MITIGATION

We support the $429,000 funding level as contained in the President's 1991 budget for fish and wildlife mitigation of the Missouri River Bank Stabilization and Navigation Project. We ask that the appropriation language provide that the Corps of Engineers be directed to initiate acquisition of real estate required for the project using any funds not needed for completion of the planning and design activities. If additional funds are appropriated for the project they could be used effectively. Priority projects which have been proposed by the four state fish and wildlife agencies for project initiation have an estimated cost approaching $8,000,000. The project proposed by Iowa could proceed to construction once project specific engineering plans are prepared. We ask that additional funding for this program be found within the existing Corps construction budget.

As the State Water Coordinator, one of my responsibilities is to serve as the Governor of Iowa's designee on the board of directors for both the Missouri and Mississippi River Basin State Associations. Since two of Iowa's borders are defined by these national river systems our historical ties to them are very strong. We rely on the rivers for water supply for our people's domestic and commercial needs, transportation of commodities to national and international markets, hydropower and other power production, as well as recreation. While these needs have all been recognized for many years, it has only been in the past few decades that we have come to regard the habitat in and along the rivers as equally important to our state and to the nation. As you may recall for example, the Fish and Wildlife Coordination Act which is the basis for the mitigation requirement was adopted in 1958.

As was noted before the Subcommittee last year, the natural resources of the Missouri River have suffered greatly from the development of structures to serve man's purposes. Gone are the broad flat floodplain with the braided slow-moving waters which once characterized the river. Lost are the islands, sandbars and wetlands which supported the wide variety of migratory waterfowl and terrestrial wildlife. With quiet backwaters and sloughs, the river was home to countless fish for commercial as well as recreational activity.

In our testimony last year we noted in great detail the losses to habitat which were the consequence of the original project on the Missouri. With the drought conditions in the Missouri River Basin continuing throughout 1989, the fate of these dwindling resources is even more closely tied to the progress of mitigation. Migratory waterfowl for example found little opportunity to stop off for food and rest in quiet backwaters. Oxbow lakes which formerly provided refuge were dried up by the combination of drought conditions and the relentless degradation of the Missouri River's bed which results from the swiftness of the current in the restricted channel.

We appreciated the response of the Congress and especially the work of this subcommittee to propose funding of $300,000 for planning and design for FY 90. This initial funding has been accepted by the Corps of Engineers as the basis to move forward.

Almost immediately after final action by Congress last year, the Missouri River Division of the Corps began to assess what actions were needed to facilitate the construction phase of the program. The Kansas City District was given the responsibility to lead the implementation effort. The states have become involved in an advisory capacity in this process, and we are hopeful that this role will provide the basis for cooperation during the construction of the various projects along the river. We continue to strive for a cooperative relationship on the Missouri to match that which currently exists on the Mississippi River. While we are not engaged in mitigation on the Mississippi, the activities are essentially the same.

Last year, the four states of Iowa, Kansas, Missouri and Nebraska coalesced their efforts to represent their concerns to you in order that the need for this mitigation effort might be better appreciated. Several months ago, in anticipation of the federal appropriations process for fiscal year 1991, the governors of our four states asked President Bush to consider the Missouri River Mitigation Project in his budget. As you probably know, the President's budget does include a request for $429,000 of additional funding to complete the planning and design phase of the program. Because the Corps of Engineer's Missouri River Division has been attempting to facilitate all of the preliminary activities which precede construction, we understand that construction activities could commence after October 1, 1990. Our request, consistent with that possibility would provide the Corps with the flexibility to use the funds appropriated in the most effective manner.

The President has indicated that wetlands protection and the implementation of the North American Waterfowl Plan are national priorities. The Missouri River Mitigation program satisfies both objectives.

Based on the previous actions of this Subcommittee in particular, and the Congress as a whole, we hope that Missouri River Mitigation might receive favorable consideration for some additional funding for construction. We are not asking for funding above the President's recommended construction budget, but would ask the Subcommittee to attempt to find a way to provide funds for construction within the existing construction budget.

During the past year, as people along the River became aware of the Corp's planning activities, public support began to manifest itself in a variety of ways. Our agency, the Governor and the members of Congress from Iowa have all been receiving letters from virtually every unit of local government along the Missouri River. We have been asked to attend meetings sponsored by the state representatives and senators whose districts border the river to discuss progress that has been made in starting the mitigation effort. The Iowa General Assembly has adopted a resolution in support of the Missouri River Mitigation Program.

In summary on this element of our comments, the Missouri River Mitigation Project is a very popular program. Four states and their citizens are asking for continuation of this effort. Your continued support will provide critical assistance to save or restore a small portion of what was once a vast natural resource area and which is still today a significant element of a national river system.

UPPER MISSISSIPPI RIVER ENVIRONMENTAL MANAGEMENT PROGRAM

A second program of interest to Iowa is the Upper Mississippi River Environmental Management Program or EMP. The program is an important experiment to demonstrate our ability to maintain environmental values, perhaps best personified by the wildlife refuge, at the same time that the river system supports economic interests such as navigation and variety of commercial enterprise.

We are thankful for the support that this Subcommittee has shown for the EMP program in the past. This year the President's budget proposes about the same effort as last year with an appropriation of $14.9 million versus the $19.45 which is authorized. While we are appreciative of the funding which has been received, we are compelled by the nature of the program to seek at least your consideration of funding at the fully authorized level. Recognizing the realities of the federal deficit, this request comes within the context of the current level for the budget as a whole.

As it matures, this program provides both insight and practical examples of how competitive uses of the river system can all be maintained if adequate resources are applied to each of them.

By their nature, early efforts under this program have been somewhat experimental in nature. A variety of smaller projects characterize the EMP program, and their purposes, which are divergent as well, suit the needs for habitat within the particular reach of the river. Much of the battle is to hold back sediment from shallow backwater areas, which results from non-point sources and becomes resuspended with traffic on the river. Susceptible areas can be protected by diverting flows of silt laden waters. Shallow areas can be deepened to allow fish to winter over where they would otherwise be forced out by ice cover. A broad range of aquatic and terrestrial habitat can be established to support the needs of migratory waterfowl. Because of these features, these projects also can serve the needs of the North American Waterfowl Plan.

This is the fourth year in a ten year authorization. Because it is not comprised of a single project, but is instead many smaller ones, the impacts of reductions is greater. It is important that the program receive funding at the fully authorized level. The impact of reduced funding will manifest itself in at least two important ways.

Over 50 specific projects are identified in the program. Only four have been completed to date and four more have gotten to contract award. Less than full funding in FY 1991 is expected to delay the completion of seven projects by as much as one year.

The long Term Resource Monitoring Program, which is a broad based assessment of the quality of the River resource for the entire upper basin, is the foundation for assessment of the condition of the basin and hopefully will provide valuable insight into the impact of ongoing activities with time. We must have complete support for monitoring now. Each day lost is a day of information lost. The complexity of the system and the variety of conditions makes it imperative that we establish the longest period of record possible.

This monitoring data will guide our decisions in future years. It will be key in evaluating what we have accomplished. There is also emerging an external example of how this data can become pivotal to basin activities. Proposals to assess the need to upgrade the navigation system are being made. These studies as well as the Environmental Management Program will rely on the data base created by the Long Term Resource Monitoring Program. We are confident that the availability of good data within the basin will greatly enhance decision making and minimize delays required for assessment.

Although the number of completed projects are few in number, the inherent physical attributes of the construction activity provide ample visual verification of the benefit of the work to the restoration of habitat diversity. We are confident that your continued support of this program will reap substantial benefits to this important national river system.

LETTER FROM GOV. MIKE HAYDEN OF KANSAS

The Honorable George Bush
President
The White House
1600 Pennsylvania Avenue
Washington, D. C. 20500

Dear President Bush:

For over a decade the states of Iowa, Kansas, Missouri and Nebraska have been seeking the authorization and funding for the mitigation of fish and wildlife habitat losses which occurred along the Missouri River as a result of the bank stabilization and navigation project. The mitigation program was mandated by the 1958 Fish and Wildlife Coordination Act and was authorized for funding in the 1986 Water Resources Development Act. Recently, the Congress appropriated $300,000 for planning and design for this project in FY 1990.

The program is consistent with your views regarding the protection of wetlands and furthers the objectives of the North American Waterfowl Plan. The Missouri River is a national resource which once featured a broad flood plain and a wide variety of sand bars, side channels, marshes and other areas which provided habitat for large numbers of migratory waterfowl and a tremendous diversity of fish and wildlife. Many of these diverse features were lost when channelization altered the river's characteristics.

The mitigation effort is designed to restore a portion of this diversified habitat through a number of small projects along the river. Our proposal is clearly consistent with your environmental and natural resource priorities.

As governors we support the Missouri River Mitigation Project and are asking you to provide funding for construction of mitigation projects along the Missouri River in your FY 1991 budget proposal.

Sincerely,

Terry E. Branstad,
Governor of Iowa

Mike Hayden,
Governor of Kansas

Kay A. Orr,
Governor of Nebraska

John Ashcroft,
Governor of Missouri

MISSOURI NATIONAL RECREATION RIVER

STATEMENT OF ARTHUR A. VOLK, LANDOWNER, MISSOURI RIVER BANK STABILIZATION ASSOCIATION

ACCOMPANIED BY DARREL CURRY, VICE PRESIDENT, MISSOURI RIVER BANK STABILIZATION ASSOCIATION

Senator **REID**. Senator Domenici, would you take the chair and proceed with the rest of the witnesses?

Senator **DOMENICI** [presiding]. I would be pleased to.

Jim Peterson, president, Missouri River Bank Stabilization Association.

Mr. Peterson, we welcome you. If you would, please, take the witness table.

Mr. **CURRY**. Mr. Chairman, I am Darrel Curry. With your permission, we would like to have Art Volk give the testimony.

Senator **DOMENICI**. We will make your testimony part of the record. I note it is brief, and you can handle it however you like. If you want to read it, fine, or if you want to excerpt it; it is not too long.

Mr. **VOLK**. Thank you very much. I was sorry to see Senator Reid leave. We thought maybe we were one of the final four here also.

Senator **DOMENICI**. If you wonder what we were chatting about when we leaned over for a moment, we were talking about how ecstatic and overjoyed his State must be because of what happened a couple of nights ago. So we apologize for doing that. Now he is not here, so I can devote all my attention to you.

Mr. **VOLK**. I was pretty proud of him, too.

I have no particular title. I am a landowner from South Dakota and a member of the Missouri River Bank Stabilization Association. We appreciate the opportunity to be here. We are here to request funding for the Missouri River national recreational project.

To refresh your memory on this, this project covers the 59-mile segment of the Missouri River lying downstream from Gavins Point Dam, near Yankton, SD. The Ponca State Park lies at the lower end of this reach. For your information, this is the sole remaining segment of the Missouri River that has not been controlled by some method or other.

We are here to request funding for this project. This project was authorized in 1978 under section 707 of Public Law 95-625. We request that this be included in the budget for fiscal year 1991. At the time this project was authorized, its cost, which was to be expanded over a period of several years, was identified as $21 million. Now for fiscal year 1991, $1,060,000 is needed for construction, as well as $200,000 for operation and maintenance of the works already completed along this reach of the river. This was done under section 32, Stream Bank Control and Demonstration Act, an act which expired in 1983. The expenditures under the current law have provided new access points to the river, has provided waterfront improvement and development, and some stream bank protection. Additional expenditures of these types are contemplated.

Continuing funding of this project will enable the Corps of Engineers to pursue its work to contain the river and protect the investment of some $6 million of work already completed. We firmly believe that financial responsibility for this falls to the Federal Government because this is, after all, a national river, so designated by Congress. Again, I would like to thank you for the opportunity to appear in front of you.

Senator DOMENICI. You are welcome.

[The statement follows:]

STATEMENT OF ARTHUR A. VOLK

Mr. Chairman and Members of the Sub-Committee:

On behalf of the membership of the Missouri River Bank Stabilization Association, we certainly wish to thank you for this opportunity to testify before you with reference to the Fiscal Year 1991 budget. Your willingness to permit us to testify and the courtesy you continually show us is indeed appreciated.

As you know, little of the "wide Missouri" remains in its natural state. Yesterday's "wild Missouri" is today in large part tamed. The channelization projects and the erection of the six "main stem" dams have left only isolated reaches of river in anything resembling a natural state. Thanks to your involvement and foresight, one segment of the Missouri is now being protected and preserved in a more or less natural state. A year ago you demonstrated your belief in and concern for, that segment of the Missouri by recommending funding in the amount of $620,000.00 for construction and $100,000.00 for operation and maintenance. We certainly thank you for demonstrating your genuine interest in so tangible a manner.

We are here to request that funding for the Missouri National Recreation River Project, authorized in 1978 under Section 707 of Public Law 95-625, **be included in the budget for FY 1991**. At the time this project was authorized, its cost (to be expended over a period of several years), was identified as $21,000,000.00. **For FY 1991, $1,060,000.00 is needed for construction as well as $200,000.00 for operation and maintenance of the works already completed along this reach of the river** under Section 32 Streambank Control and Demonstration Act, an Act which expired in 1983.

Expenditures under the current law have provided new access points to the river, waterfront improvement and development, and some streambank protection. Additional expenditures on these types of improvements are contemplated.

To refresh your memory, this project covers the fifty-nine (59) mile reach of the Missouri lying downstream of the Gavins Point Dam, near Yankton, South Dakota. The Ponca State Park, near Ponca, Nebraska lies at the lower end of this reach. This is the sole remaining segment of the Missouri below Gavins Point Dam, that is neither channelized for navigation or inundated by any of the lakes formed by the damming of the Missouri. Here, the Missouri occupies its "old" valley, unchanged by the most recent period of glaciation. This valley is considerably wider than the "new" valley extending upstream of Yankton, South Dakota, and the loose, fertile soil of its broad floodplain is easily eroded. Unchecked, the Missouri wanders at will, devouring its shoreline in a frighteningly casual way. The problem is compounded by the varying releases of water at the Gavins Point Dam. Those releases are determined by numerous, often

unpredictable, factors such as navigation needs, the demand for hydroelectric power, efforts to protect endangered species, (such as the least tern and the piping plover), the need for flood control, and the demand for drinking water. In consequence, the unprotected soil of the floodplain is under almost constant attack. The River and its corridor is that which we seek to protect and preserve.

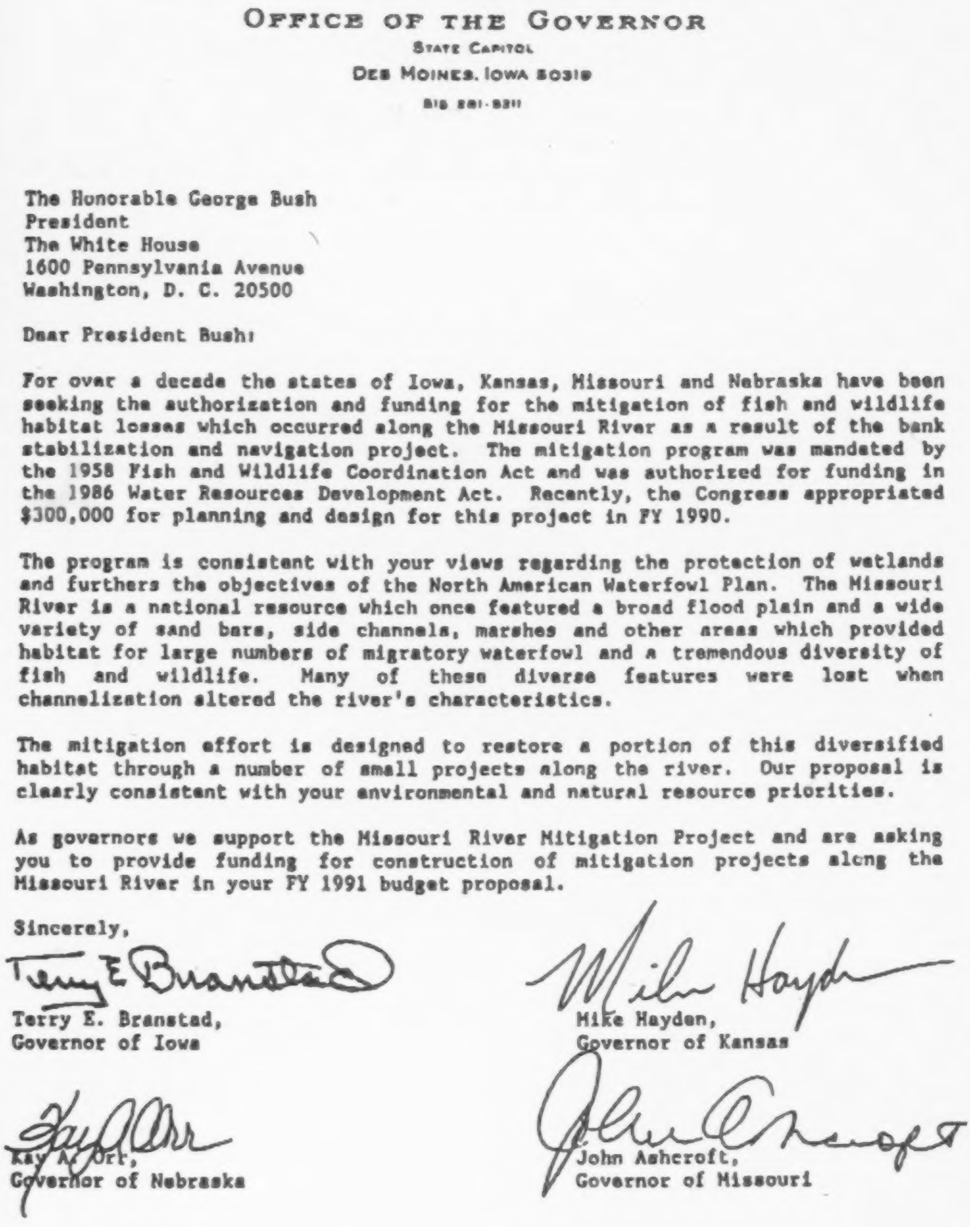
Continued funding for this project will enable the Corps of Engineers to pursue its work to contain the River and protect the investment of some $6,000,000.00 of work already completed. **We firmly believe that financial responsibility for this falls to the federal government because this is, after all, *a National River,*** so designated by Congress.

In conclusion, we again thank you for this opportunity to appear before this sub-committee and for the consideration you have shown for those farmers, outdoorsmen, environmentalists, and others who make up the Missouri River Bank Stabilization Association.

We would be happy to try to answer any questions you might have.

Thank you.

LETTER FROM GOVERNORS OF IOWA, KANAS, MISSOURI, AND NEBRASKA



OFFICE OF THE GOVERNOR
STATE CAPITOL
DES MOINES, IOWA 50319
515 281-5211

The Honorable George Bush
President
The White House
1600 Pennsylvania Avenue
Washington, D. C. 20500

Dear President Bush:

For over a decade the states of Iowa, Kansas, Missouri and Nebraska have been seeking the authorization and funding for the mitigation of fish and wildlife habitat losses which occurred along the Missouri River as a result of the bank stabilization and navigation project. The mitigation program was mandated by the 1958 Fish and Wildlife Coordination Act and was authorized for funding in the 1986 Water Resources Development Act. Recently, the Congress appropriated $300,000 for planning and design for this project in FY 1990.

The program is consistent with your views regarding the protection of wetlands and furthers the objectives of the North American Waterfowl Plan. The Missouri River is a national resource which once featured a broad flood plain and a wide variety of sand bars, side channels, marshes and other areas which provided habitat for large numbers of migratory waterfowl and a tremendous diversity of fish and wildlife. Many of these diverse features were lost when channelization altered the river's characteristics.

The mitigation effort is designed to restore a portion of this diversified habitat through a number of small projects along the river. Our proposal is clearly consistent with your environmental and natural resource priorities.

As governors we support the Missouri River Mitigation Project and are asking you to provide funding for construction of mitigation projects along the Missouri River in your FY 1991 budget proposal.

Sincerely,

Terry E. Branstad
Terry E. Branstad,
Governor of Iowa

Mike Hayden
Mike Hayden,
Governor of Kansas

Kay A. Orr
Kay A. Orr,
Governor of Nebraska

John Ashcroft
John Ashcroft,
Governor of Missouri

Senator **Domenici**. Do you have anything to add, Mr. Curry?

Mr. **Curry**. Mr. Chairman, I have a support letter from State Senator Conway in Nebraska and State Senator Elroy Hefner. With your permission, I would like those entered into the record.

Senator **Domenici**. Mr. Curry, they will be admitted in the record at this point.

Did you have anything further you would like to add?

Mr. **Curry**. No; thank you very much.

Senator **Domenici**. Thank you, and we appreciate your taking time to come up here, particularly you. You said you are just an ordinary citizen. That is very important that ordinary citizens come up here and support these kinds of projects. Thank you very much.

[The letters follow:]

LETTER FROM NEBRASKA SENATOR GERALD CONWAY

Nebraska State Legislature

Ninety-First Legislature

March 27, 1990

The Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
Senate Appropriations Committee
Washington, D.C. 20510

Dear Mr. Chairman:

Please include this letter as part of the committee record for the hearing at which it is presented.

I represent the 17th District which is located in Northeast Nebraska. My District borders the Missouri River for approximately fifty miles and includes much of the Missouri National Recreation River Project. I have personally observed the erosion caused by the natural shift of the banks along this part of the Missouri. These unpredictable changes cause numerous problems including loss of public and private land, as well as numerous boundary disputes with Iowa.

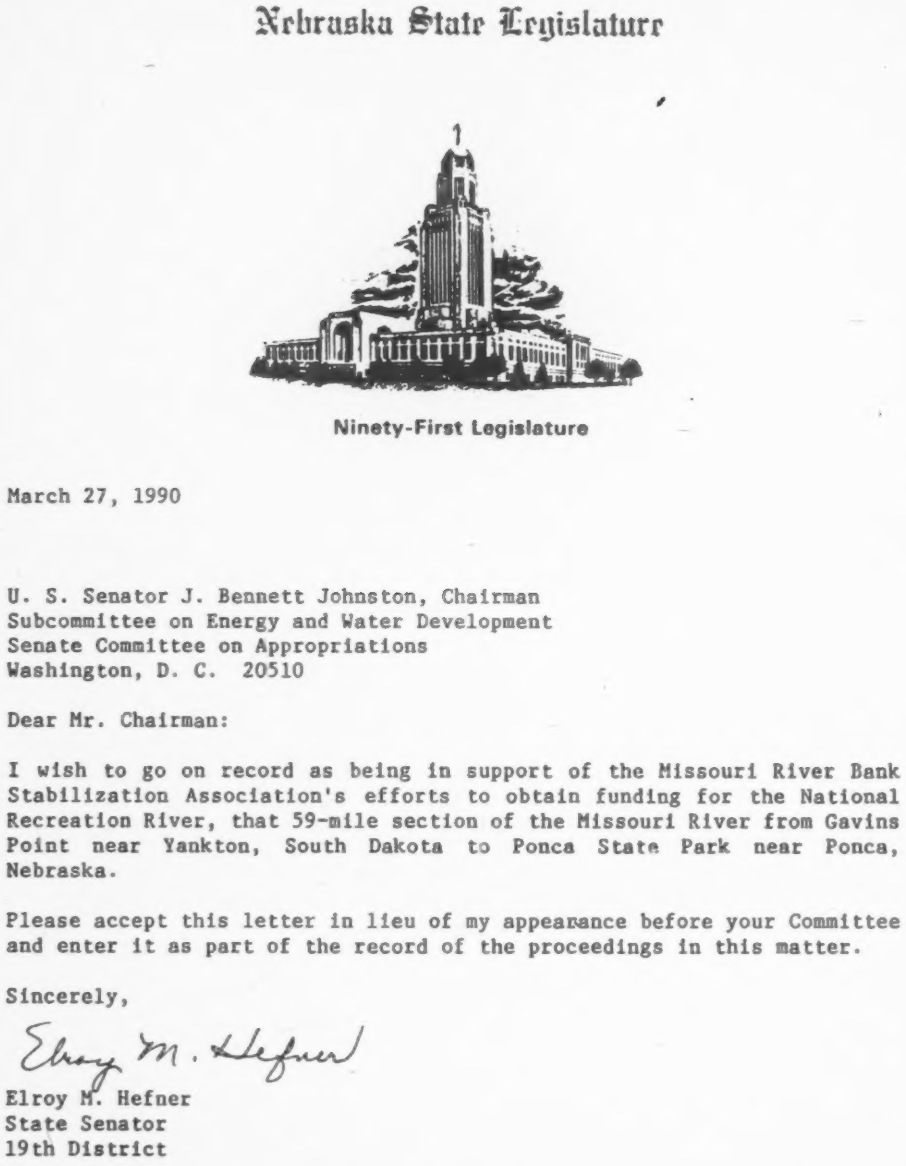
The Missouri River Bank Stabilization Association has been instrumental in the attempt to contain the river, thereby enabling full utilization of the river and its riverfront. The Association has successfully balanced the natural beauty of the river with the demands of society.

The progress achieved by the Association, is applauded by the people of Nebraska's 17th District and myself. I would offer my unqualified support for the continued support of their effort.

Sincerely,

Gerald Conway

LETTER FROM NEBRASKA SENATOR ELROY M. HEFNER



Nebraska State Legislature

Ninety-First Legislature

March 27, 1990

U. S. Senator J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
Senate Committee on Appropriations
Washington, D. C. 20510

Dear Mr. Chairman:

I wish to go on record as being in support of the Missouri River Bank Stabilization Association's efforts to obtain funding for the National Recreation River, that 59-mile section of the Missouri River from Gavins Point near Yankton, South Dakota to Ponca State Park near Ponca, Nebraska.

Please accept this letter in lieu of my appearance before your Committee and enter it as part of the record of the proceedings in this matter.

Sincerely,

Elroy M. Hefner

Elroy M. Hefner
State Senator
19th District

ADDITIONAL PREPARED STATEMENTS SUBMITTED FOR THE RECORD

Senator DOMENICI. The staff tells me that the committee has received several other statements related to Nebraska water projects. Without objection, they will me made part of the record at this point.

[The statements follow:]

STATEMENT OF TWIN LOUPS IRRIGATION DISTRICT

As President of the Twin Loups Irrigation District Board of Directors, I thank you and your Committee for your continued support of the North Loup Division, Pick-Sloan Missouri Basin Program, here in Nebraska. The President's budget requests for both fiscal years 1989 and 1990 did not include any funds to begin or continue the construction of Davis Creek Dam and its associated distribution facilities. It is only through the strong support of your committee that the Congress added sufficient funding in both 1989 and 1990 to continue constrction of the North Loup Division.

I was very pleased to see that the President's fiscal year 1991 budget request of $21,646,000 for the North Loup Division included funds to continue construction on all facilities of the North Loup Division. Again, this inclusion of sufficient funds to continue all phases of construction in the President's fiscal year 1991 request was certainly influenced by your committee's long term support ofthis project, and especially the "write-ins" over the last two consecutive fiscal years. We are hopeful that our project will be included for three more fiscal years, when we envision that all construction will be complete.

The North Loup Division construction will be about 77 percent complete by the end of fiscal year 1990. If one does not include the deferred drainage facilities which would be built in the future, when and if needed, construction at the end of fiscal year 1990 would be 81 percent complete. Water is available to 33,000 acres this year. That is 62 percent of the total of 53,000 acres with completion of the project.

On January 1, 1990, the Twin Loups Irrigation District accepted the operation and maintenance responsibility, including all the associated costs, for Block 1 of the service area. This block includes some 23,000 acres and covers those areas served by the Mirdan and Geranium distribibition systems. On January 1, 1991, the District expects to accept the operation and maintenance responsibility for Block 2, which includes some 10,000 acres and covers the area served by the Scotia distribution system. This is all of the area that has been completed at this time. Our District is assuming its operation and maintenance responsibilities on those systems already constructed. In 1987, our District also executed an amendment to the repayment contract whereby we agreed to nearly double our repayment obligation.

Construction on the Davis Creek Dam will be completed this Fall, and the road relocation, clearing, and fencing should be complete next summer. A construction contract for the Fullerton 1/Elba distribution system will be awarded in April 1990, and the contract for the Fullerton 2 and 3 distribution system is scheduled for award in June 1991. Only one major contract, Kent Diversion Dam and Canal, would remain. As you can see, construction of the North Loup Division is rapidly nearing completion, now expected in the fall of 1993 (fiscal year 1994).

Our District's Board of Directors urges your committee to approve the full $21,646,000 requested by the President in fiscal year 1991, to continue construction of the North Loup Division. We need the full 53,000 acre project completed to assure an economically sound and viable project, both from the repayment standpoint as well as the operational standpoint.

STATEMENT OF PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT

PAPILLION CREEK AND TRIBUTARIES - OMAHA, NE

SUPPORT - Administration's $2,187,000 Funding Level for FY 91 for Big Papillion Creek Improvement Project for Flood Control

SUPPORT - Administration's $718,000 Funding Level for FY 91 Dam Site 18 (Zorinsky Lake) Recreation/Flood Control

Big Papillion Creek Improvement Project:

The Papillion Creek and Tributaries Lakes Project was authorized by Section 401(A) of the 1986 Water Resources Development Act (WRDA) Public Law 99-662. This project was authorized as a result of a basin-wide re-evaluation study completed in 1985, and consists of channel improvement features between the West Center Road downstream to "L" Street along the Big Papillion Creek in Omaha, Nebraska. The project is a high priority for the City of Omaha, the Papio-Missouri River Natural Resources District, and the State of Nebraska.

The Papillion Creek basin essentially drains the western part of the Omaha metropolitan area. The basin comprises an area that drains about 402 square miles. The Omaha metropolitan area is near the center of the basin, of which 25% is urbanized. The Army Corps of Engineers 1985 re-evaluation report investigated flood damage reduction measures in all the sub-basins in the Papillion Creek basin including dams, levees, channel improvement, building relocation, floodproofing, bridge modification, and other management measures.

The purpose of the project is simply to reduce flood damages in the area which would be caused by a 50-year storm event. These measures are expected to reduce annual damages in the Big Papillion Creek flood plain by at least 60%, without causing significant changes upstream or downstream from the channel improvement area. Improvement features would begin about 1/4 mile upstream from West Center Road bridge and extend downstream about 2-1/4 miles through the "L" Street bridge (Highway 275). A recreation trail for bicycling and walking/jogging would be constructed within the channel improvement right-of-way. A non-structural component consists of basin-wide flood emergency plan which includes an electronic flood warning system. Levees would be constructed in some locations along the channel to contain the 50-year flood event. The design of the improved channel would be an average of about 170 ft. wide from bank-to-bank. Rock would be placed through bridge openings, and on channel banks where erosion is either presently active or anticipated.

A number of relocations would be required as a result of the channel improvement project. These relocations include facilities such as power lines, water lines, sanitary sewer lines, natural gas pipelines, telephone lines, three buildings, and a swimming pool. Acquisition of real estate land to construct the project has begun by the local sponsor, Papio-Missouri River Natural Resources District.

The total estimated cost of the project is $8,000,000 of which $5,550,000 is Federal and $2,450,000 is non-Federal Congress appropriated $500,000 in F.Y. 90 to begin construction on Phase I from "L" Street to "F" Street. Construction is anticipated to begin in August 1990 and completed during 1992. Annual benefits from the proposed project would amount to $982,000. There is a capability and need for $2,187,000 (federal funds) in FY 91 to complete the first phase construction in the reach from "L" Street to "F" Street and begin the second phase from "F" Street to West Center Road.

Dam Site 18 (Zorinsky Lake):

The Papillion Creek and Tributaries Lakes Project was originally authorized by Public Law 90-483 (1968 Flood Control Act). The then authorized project consisted of a system of 21 small dams and reservoirs for the purposes of flood control, recreation and water quality enhancement. Four of these dams were built (Sites 11, 16, 18 and 20) prior to a revised authorization by Section 401(A) of the 1986 Water Resources Development Act which called for deauthorization of the remaining 17 dams in favor of construction of a 2-1/4 mile channel improvement on the Big Papillion Creek in Omaha. Completion of the recreational features at the constructed reservoir sites also remained part of the authorization. Due to water quality problems in the watershed upstream of Dam Site 18, construction of the recreation facilities were delayed. Now that those problems have been resolved, it is imperative to complete this work. The recreation facilities at the other three constructed sites have been completed.

This project is vital to the Omaha metropolitan area. According to the Nebraska State Comprehensive Outdoor Recreation Plan (SCORP), eastern Nebraska has 53.7% of the state's population, but only 3.7% of the state recreational lands. Therefore, development of outdoor recreation facilities in the eastern part of the state needs to be a high priority. The project is a high priority for the City of Omaha, the Papio-Missouri River Natural Resources District and the State of Nebraska. It should be so for the federal government as well.

MISSOURI RIVER MITIGATION: P.L. 99-662 (Section 601)

SUPPORT - ADMINISTRATION'S $429,000 FUNDING LEVEL - F.Y. 91

REQUEST - APPROPRIATION LANGUAGE TO ALLOW REAL ESTATE ACQUISITION

We support the $429,000 funding level as contained in the president's 1991 budget for fish and wildlife mitigation of the Missouri River Bank Stabilization and Navigation Project (Section 601 of P.L. 99-662). We ask, however, that the appropriation language provide that the Corps of Engineers be directed to initiate acquisition of real estate required for the project using any funds not needed for completion of planning and design activities. If additional funds are appropriated for the project, they would be used effectively. Initial priority projects proposed by the four-state wildlife agencies for the mitigation project have an estimated cost approaching $8,000,000.

The Missouri River Mitigation authorization allows nearly $54 million to be spent by the Corps of Engineers in the four-state area of Iowa, Kansas, Missouri and Nebraska to restore fish and wildlife habitat lost due to the federally constructed channel and bank stabilization project on the Missouri River. This channelization project has inadvertently caused severe environmental problems; that is, an immediate loss of nearly 475,000 acres of aquatic and terrestrial habitat. Indirect losses continue primarily due to the degradation or scouring (a result of sediment deposition in the upstream reservoirs and intensified erosion downstream of Sioux City). Degradation has virtually eliminated all of the previously abundant backwater breeding and rearing areas, riparian wetlands and oxbow lakes which are hydrologically connected to the river. They have simply dried up due to the even deepening (scoured) channel. Below Omaha to St. Louis, aggradation or the deposition of sediment becomes a problem. Artificially high river elevations, continual channel maintenance and more frequent overflows are the principal habitat concerns.

The four states of Nebraska, Kansas, Iowa and Missouri continue to be united in this effort to renovate this 732 mile reach of the Missouri River. Although nearly $54 million is authorized, we do recognize the national budgetary concerns and are, therefore, merely supporting the Administration's $429,000 funding level for F.Y. 91, with a request that the appropriation language allow any excess planning money be used for project land acquisition.

An example of the tremendous local commitment to the Missouri River is the Papio-Missouri River Natural Resources District's Corridor Project (the P-MRNRD represents one-third of the population in the State of Nebraska). Our Missouri River Corridor Project attempts to address the grassroot concerns along the Missouri River regarding wetland/wildlife habitat reclamation. But, we cannot do this ourselves. Federal mitigation funding is essential to accomplish these goals

The Papio-Missouri River Natural Resources District is, therefore, extremely pleased with the President's recognition of Missouri River mitigation needs and subsequent funding support. It will have a very positive and timely impact on the entire region.

PLANNING ASSISTANCE TO STATES; P.L. 93-251 (Section 22)

SUPPORT - ADMINISTRATION'S $5,000,000 FUNDING LEVEL - F.Y. 91

REQUEST - $300,000 FOR STATE OF NEBRASKA PROJECTS

OPPOSE - NEWLY PROPOSED COST-SHARE REQUIREMENTS

We fully support the Administration's $5,000,000 national funding level for Planning Assistance to the States (Section 22 of P.L. 93-251). Additionally, Nebraska is requesting the maximum amount of $300,000, to allow the state to continue with its planning and design efforts for a wide variety of vital, water related projects. These "Section 22" funds, provided to the Corps of Engineers for planning and technical assistance, has allowed a number of vital, statewide water projects to be initiated.

This funding request is a State priority. However, it has a large impact on the Papio-Missouri River Natural Resources District. We would like to continue these project planning efforts within our Natural Resources District and a $300,000 appropriation for Nebraska would allow this to continue in a coordinated manner.

We oppose, however, any cost-share requirements project for this program.

The current Administration's budget has this Section 22 program funded at $5,000,000. However, this $5,000,000 is at a 90% Federal/10% local cost share. This would result in an actual reduction of $500,000 from F.Y. 89 levels. We would like to voice our opposition on this reduction, as well as the new requirement for a cost-share provision. The rational for opposing the cost-share requirement is several fold:

1. This cost-share provision is rather odd in that it would not provide funds for state employees to conduct the planning or technical assistance, but rather for Federal Corps of Engineers staff to carry out this service provided to the states. In effect, an apparent double cost-share provision for the Section 22 program is being presented.

2. The closed Federal budget process would not allow local (state) cost-share sponsors an opportunity to budget an appropriate cost-share amount until after their respective legislatures have established their fiscal year's budget.

3. Valuable, on-going projects would be hit mid-stream with this cost-share requirement. Many of these projects would not continue due to lack of local funding. Incompleted projects would have essentially wasted their initial funding appropriation by not being allowed to continue through fruition.

PROJECT MODIFICATIONS FOR IMPROVEMENT OF THE ENVIRONMENT:
P.L. 99-662 (Section 1135)

SUPPORT - ADMINISTRATION'S $5,000,000 FUNDING LEVEL - F.Y. 91

SUPPORT - SPECIFIC $900,000 FUNDING LEVEL FOR DEMONSTRATION PROJECT IN DEGRADED MISSOURI RIVERBED REACH

SUPPORT - SPECIFIC $61,000 FUNDING LEVEL FOR DEMONSTRATION PROJECT PAPILLION CREEK AND TRIBUTARIES LAKES, NEBRASKA

We wholeheartedly support the Administration's $5,000,000 national funding level for Project Modifications for Improvement of the Environment (Section 1135 of P.L. 99-662). We similarly support the President's $900,000 budget request for demonstration projects in a degrading reach of the Missouri River and $61,000 for renovation of lakes in the Papillion Creek Watershed, Nebraska.

Missouri River:

Locally, we have been very aggressive in our support of the Corps of Engineers' high priority project recommendations within our Natural Resources District. The Missouri River Bank Stabilization and Navigation Project for backwater restoration in a degraded riverbed reach will demonstrate the effectiveness of techniques to rehabilitate aquatic/wetland habitat on the Missouri River. Implementation would restore vital aquatic habitat lost through river degradation, caused by the Federal Bank Stabilization/Navigation Project and mainstem reservoirs.

Conceptual plans and preliminary engineering designs for this demonstration project will be finalized in the current 1990 fiscal year, and provided to the Corps of Engineers for development of this demonstration site. The Papio-Missouri River Natural Resources District will also act as the local cost-share sponsor. (We have already appropriated in F.Y. 1990 sufficient funds to cost share this demonstration project.)

The Papio-Missouri River Natural Resources District is committed, ready to go and extremely optimistic about the immediate and long-range benefits of this demonstration project. The Administration's recognition of the national priority scope of this this project, coupled with this timely funding support will serve as a catalyst for us to continue our wetland/habitat reclamation efforts along the entire Missouri River Corridor.

Papillion Creek Lakes:

The Papillion Creek reservoirs in the Omaha area are a vital part of the recreation opportunities available in the eastern part of Nebraska. Due to erosion and sedimentation, this reservoir is being prematurely depleted. The proposed demonstration project would involve placement of shoreline aquatic plants and webbing to reduce erosion, construction of detention ponds in adjacent areas to keep sediment from entering the lake, construction of rock dikes to keep sediment zones in the headwater potions of the lake and regulation of outlet releases to improve water quality. Beneficial effects would be decreased erosion, improved water quality, decreased loss of fishery habitat and prolonged reservoir life. The Papio-Missouri River Natural Resources District stands ready to act as local cost share sponsor.

STATEMENT OF NEBRASKA GAME AND PARKS COMMISSION

Please accept fifteen copies of this letter for the written record as the testimony of the Nebraska Game and Parks Commission for consideration by the Subcommittee on Energy and Water Development.

We support the $429,000 funding level contained in the President's 1991 Budget for Fish and Wildlife Mitigation of the Missouri River Bank Stabilization and Navigation Project. We ask that the appropriation language provide that the U.S. Army Corps of Engineers be directed to initiate acquisition of real estate required for the project using any funds not needed for completion of planning and design activities. If additional funds are appropriated for the project, they could be used effectively. Priority projects proposed by the four state wildlife agencies for project initiation have an estimated cost approaching $8,000,000.

A second project appropriation of concern to our agency is the Missouri National Recreation River. According to our understanding of the funding request, it is intended to be used largely for maintenance of previously constructed bank erosion control structures and as cost sharing for initiation of development of a park area in the vicinity of Vermillion, South Dakota. We appreciate the need for the assignment of priorities to these activities in the recent past, but encourage the subcommittee to consider the balance for which the National Recreation River concept was adopted to achieve. In order to better assure this goal we recommend a small appropriation for the specific purpose of a Department of Interior led review and updating of the ten-year old Missouri National Recreation River Master Plan. We also recommend favorable committee action for funding the Section 1135 Program of P.L. 99-662. One of the projects under consideration is a Nebraska project in the vicinity of Blair, Nebraska which would compliment the Missouri River Mitigation project discussed above.

U.S. Army Corps of Engineers Section 22 Technical Assistance Program for state water planning is another area of direct concern to our agency and we support the level of appropriation requested. We would point out for the Subcommittee's consideration in determining cost sharing requirements for Section 22 participation that many of the projects undertaken in Nebraska involve issues that could arguably be termed equally of federal interest. For example, we have had studies on or concerning the Missouri River, studies that will be used in administration of federal permits for discharge of dredged or fill materials and studies concerned with wetland management.

We appreciate past opportunities to participate and favor continuation of a process whereby state agencies and political subdivisions submit Section 22 proposals to the agency responsible for state water planning for final determination of priorities and schedules.

STATEMENT OF LOWER PLATTE SOUTH

We are writing to convey our requests and positions on several programs and projects that have been included in the Administration's budget recommendations for the Fiscal Year 1991. The specific programs and projects of interest include several Corps of Engineers, Section 205, Small Flood Control Projects, and Missouri River Mitigation.

Section 205, Antelope Creek Flood Survey, Lincoln

The Section 205 Reconnaissance Study of Antelope Creek through Lincoln by the Army Corps of Engineers has been completed in draft form and is ready for review. We anticipate the study will demonstrate the vital need for flood control assistance and recommend a feasible solution.

The Feasibility Study Phase is expected to begin in September 1990 and be completed in 1991. We urge continued funding in the FY1991 Budget for this Feasibility Study.

Antelope Creek flows from southeast Lincoln in a northwesterly direction through an extensively developed urban area. This area contains many established residences, businesses, and public facilities, including Lincoln High School, that would be impacted by flooding along Antelope Creek. Flooding would also greatly impair the transportation network through the City. The economic and social damages from flooding in this built-up urban area along Antelope Creek would be substantial.

Section 205 Salt Creek Flood Study, Lincoln

The Section 205 Reconnaissance Study of Flood Control for Salt Creek through Lincoln has been completed and demonstrates that a feasible solution exists.

It is expected that the Feasibility Study will begin for this project in October 1990. We urge continued funding in the FY1991 Budget for this Feasibility Study.

The Salt Creek Flood Control Project was originally authorized by Congress in 1958 and completed in 1968. In 1986 the City of Lincoln adopted a revised Flood Insurance Study showing that the project provided protection from less than a 50-year frequency storm, as compared to the 100-year flood protection originally planned. A soil problem inherent in the levee system also threatens the integrity of the project. Improving the level of flood protection and restoring structural stability to the system is vital.

Section 205 Cedar Creek Flood Control Levee

The Section 205 Reconnaissance Study of Flood Control for the Village of Cedar Creek by the construction of a levee has been completed, showing a feasible solution. We urge continued funding in the FY91 Budget for the Feasibility Study for this project.

Section 205 Reconnaissance Studies of Dead Man's Run and Beal Slough, Lincoln

The recently completed draft, updated flood insurance study of the Dead Man's Run drainage in Lincoln shows major residential areas being subject to flooding from the 100-year storm which were not included as flood prone in the previous study. The City of Lincoln has requested the Corps of Engineers to conduct a Section 205 Reconnaissance Study of Dead Man's Run to see if there are any feasible solutions to reduce the flooding impact.

The City of Lincoln has also requested the Corps of Engineers to conduct a Section 205 Reconnaissance Study on flooding problems in the Beal Slough Watershed in southeast Lincoln. This area is undergoing rapid transformation from rural, agricultural land use to urbanized residential and commercial land use. The downstream portion of this watershed is already fully developed. Concern exists as to the potential downstream impacts from flooding as a result of continued upstream development.

We urge funding for these Section 205 Reconnaissance Studies of Dead Man's Run and Beal Slough in the FY91 Budget.

Missouri River Mitigation (PL99-662)

A portion of the Missouri River borders our District and is an important resource in our area. We join with the several other natural resources districts in Nebraska and with the states of Nebraska, Iowa, Kansas, and Missouri in supporting the $429,000 appropriation contained in the Administration's FY91 Budget for mitigation of fish and wildlife resources as authorized by PL99-662.

We appreciate this opportunity to convey to you our requests and recommendations of funding of various water projects of immediate impact and interest to the Lower Platte South Natural Resources District.

STATEMENT OF NEBRASKA NATURAL RESOURCES COMMISSION

The Nebraska Natural Resources Commission sincerely appreciates this opportunity to present its priorities and recommendations concerning federal projects and programs. The Commission has the responsibility to plan, develop and encourage the implementation of a comprehensive program of resource development, conservation and utilization of the soil and water resources of the state. The following comments are focused on the planning and construction activities involving the Corps of Engineers and the Bureau of Reclamation most directly related to this agency. While the Commission certainly has an interest in other projects and activities being carried out by these two Federal agencies within Nebraska, an inclusive list of that activity can be found in the testimony presented on behalf of the Governor of the State of Nebraska, the Honorable Kay Orr.

A number of the funding requests listed below reflect national totals. Nebraska is dependent on an allocation of equitable shares for each of the programs. In the interest of brevity, the following summary of our request is provided.

FISCAL YEAR 1991 BUDGET RECOMMENDATIONS

AGENCY	PROGRAM OR ACTIVITY	NATIONAL ALLOCATION	NEBRASKA ALLOCATION
Corps of Engineers	Section 22	$5.0 M	$300.0 T
Corps of Engineers	Flood Plain Management Services	$9.0 M	-----
Corps of Engineers	Drought Study	$2.5 M	_____
Corps of Engineers	Section 205	$30.0 M	_____
Corps of Engineers	Missouri River Mitigation Funding	$429.0 T	
Bureau of Reclamation	Groundwater Recharge Demonstration Program	$4.5 M	$376.7 T
Bureau of Reclamation	O'Neill Unit Alternatives Study	_____	$600.0 T
High Plains Study Council		$8.7 M	$1.0 M

SECTION 22

The Planning Assistance to States budget, proposed by the Administration, included $4.5 million for Section 22 studies. The budget request was accompanied by a provision to cost-share services with nonfederal sponsors on a graduated scale beginning with 10% in FY 91, increasing to 30% in FY 92 and topping at 50% in FY 93.

The Nebraska Natural Resources Commission believes the cost-sharing provision is similar to the one offered by the Administration last year and rejected by the House Subcommittee on Energy and Water Development as contrary to law. As the House Committee Report (H. Report 101-96) indicated last year, the costs of developing and maintaining separate cost-sharing agreements for each individual study would outweigh the benefits of increased revenues from local sponsors. For example, in Nebraska, Section 22 funds have been allocated for the following activities during the current fiscal year: analysis of instream values of Missouri River reservoir releases; Missouri river corridor study backwater plans; rainwater basin models; and an initial investigation of Middle Loup bank erosion problems for study design. This year, the Missouri River and Middle Loup River studies will be completed and new planning studies started on the Platte and other rivers. Several state and a number of local agencies have a direct interest in each of these activities. It is obvious that cost-sharing requires significant advance cooperative effort. To add a requirement of cost-sharing would eliminate the flexibility that is fundamental in this program. Furthermore, the Commission feels that if Congress truly desired cost-sharing for this program, the requirement would have been made in the Water Resources Development Act of 1986. The Commission is disturbed that the Administration continues to try to insert cost-sharing in this program.

FLOOD PLAIN MANAGEMENT SERVICES

The National budget includes $9.0 million for flood plain management services. Cost-sharing, similar to that proposed for Section 22 studies, is a recent, but unwarranted attribute proposed as part of the program. As the state flood plain management agency, we feel this is a very ill advised approach. The Nebraska Natural Resources Commission carries out flood plain delineation studies pursuant to state statute. The Nebraska effort supports and supplements the program that is federally mandated by the National Flood Insurance Program. If cost-sharing for flood plain studies is required, the Commission will expect similar consideration for the programs being carried out and funded solely by the state. Under Nebraska law, this agency is responsible for flood related technical assistance to all local governments and state and local agencies. The Corps of Engineers FPMS program has been very effective in furnishing such data to those requesting it. If there is a cost associated with the service, the result will be a serious overload of such requests being rerouted to our state agency. Under a joint working agreement with our Commission, the Soil Conservation Service also cooperates in the conduct of flood plain delineation studies, and at this point, the Commission has not had any warnings that cost-sharing will be required from that agency. The Commission asks that Congress provide positive guidance to this program, as states are very willing to collaborate and cooperate with federal counterparts, but will continue to reject cost-sharing proposals of this nature.

DROUGHT STUDY

The budget proposal includes $2.5 million to continue the second year of the National Management During Drought Study. The primary objectives of the study are to determine how water is managed during drought, to formulate alternatives, and to make recommendations for more efficient and effective drought response. Since the State of Nebraska developed a drought assessment and response plan several years ago, the Commission is interested in providing nonfederal perspectives and suggestions to the Corps of Engineers during the course of their 3 year study. Selfishly, the Commission hopes to gain a number of new ideas to improve our own response plan, and urges continued funding of the Corps of Engineers effort.

SECTION 205

The Natural Resources Commission is currently providing state cost-share funds at the level of 60% of the non-federal cost to three Section 205 projects. Construction of the Scribner Levee Project at Scribner, Nebraska, as originally planned and estimated to cost $1,736,000 is complete. However, the Corps of Engineers has determined that an additional levee will be necessary to provide 100-year flood protection to much of the community. If the City of Scribner decides to proceed with the additional levee that is estimated to cost $676,000, the continuation of state cost-share funds will be considered.

Turning to another 205 project, the Local Cooperation Agreement for the Lodgepole Creek Project at Sidney, Nebraska, has been executed and the city can now proceed with land rights acquisition. We look forward to the commencement of project construction in FY 1991. This project has a total estimated cost of $3,835,500.

In another matter, land rights acquisition is underway in the Big Papillion Creek Channel Improvement Project in Omaha, Nebraska. The Natural Resources Commission has approved $1,470,000 in state funds for this essential flood control project which has a total estimated cost of $8,000,000. The Commission supports the FY 91 request of $2,187,000 for this project and looks forward to construction to begin this calendar year.

Local sponsors have also made requests for possible state cost-share assistance for two Section 205 projects that are currently in the planning stage. These projects are Cedar Creek located along the Platte River at Cedar Creek, Nebraska, and Lower Wood River/Warm Slough at Grand Island, Nebraska. The Commission supports continued planning work by the Corps on these projects which are estimated to cost $4,600,000 and $6,000,000 respectively.

MISSOURI RIVER MITIGATION FUNDING

The Commission has cooperated fully with the Papio-Missouri River Natural Resources District, the Nebraska Game and Parks Commission, the States of Iowa, Missouri and Kansas, and the Corps of Engineers on the Missouri River mitigation plan. The Commission supports the $429,000 funding level as contained in the President's FY 91 budget for fish and wildlife mitigation of the Missouri River Bank Stabilization Project. The Commission asks that appropriation language provide that the Corps of Engineers be directed to initiate acquisition of the real estate required for the project using any funds not needed for completion of planning and design activities.

HIGH PLAINS STATES GROUNDWATER DEMONSTRATION PROGRAM

The Commission is the responsible state agency to work with the Bureau of Reclamation on the Nebraska projects of the High Plains States Groundwater Demonstration Program. The Commission anticipates the completion of two projects within the state.

The York, Nebraska project is being sponsored by the Upper Big Blue Natural Resources District. The project will demonstrate the effectiveness of natural seepage from a small reservoir and spreading basins and well injection through alluvial material to a sand and gravel aquifer that is used as both an irrigation and municipal water supply. The total cost for the project is estimated at $1.9 million, of which the sponsor's share will be $382,380. The project will be completed and in operation prior to the end of the current fiscal year.

The Wood River, Nebraska project is sponsored by the Central Platte Natural Resources District. This project will be located near the Platte river south of the town of Wood River. The project would examine the use of two infiltration ponds with surface areas of about 30 acres each, and would require the construction of a pipeline from the diversion point to the infiltration ponds. Water would be pumped from the Platte river and an adjoining sand pit at the rate of about 900 gpm for approximately 32 weeks per year. The sponsor is currently refining cost estimates and working on a wet-meadow research plan in cooperation with the Fish and Wildlife Service. It is anticipated construction of this project will be initiated during this current fiscal year, however, landowner concern over the recreation land issue associated with the proposed Prairie Bend project may cause some delay.

One of the overall issues facing the demonstration program effort is the $20.0 million authorized ceiling. Federal costs in the total program are now estimated at $27.6 million and all costs are not firm at this point. The Commission supports legislation to increase that ceiling.

O'NEILL UNIT ALTERNATIVES STUDY

This activity also falls under the ground water recharge category. During the past year, from initial observations, the Bureau of Reclamation has successfully demonstrated a number of ground water recharge techniques in the O'Neill project area. Additional work is required to complete the study and the report in FY 91. Last year the Commission understood the study would be completed during the current fiscal year, but now understand that the Bureau proposed completion during FY 91. With that in mind, the Commission supports a $600,000 appropriation to complete this study and determine the future of the O,Neill project.

OGALLALA AQUIFER RESEARCH AND DEVELOPMENT PROGRAM

At the present time, the Ogallala Aquifer Research and Development Program does not fall within either Corps of Engineers or Bureau of Reclamation activities. In short, there is not an Administration request supporting funding for the program, however, the Commission suggests strong consideration be given to funding the program for FY 91.

For background information, Section 1121 of Public Law 99-662 established within the Water Resources Research Act an important program to assist the High Plains Region reclaim and manage a critical water resource. Since passage of PL 99-662 in 1986, the United States Geological Survey has been funded under the act to monitor the Ogallala aquifer in the eight state area. During the past one and one-half years, Governors of the states of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas and Wyoming have banded together to form the High Plains Study Council as required by law. That effort resulted in a letter signed by all eight Governors and sent to the proper Committees of Congress to express their strong support for the Ogallala recovery and management effort.

The appropriations request is based on the authorizations contained in sections 303, 304, and 305 of Title III of PL 99-662. Sections 303 and 304 will fund new state research to find new and improved methods to use less water and to better manage and develop available water supplies. At least 25 percent of the costs of this research must come from non-federal sources.

Section 305 provides for turning that research into action by financially assisting farmers who will sponsor demonstration projects involving irrigation technologies, soil and water conservation management system, and the production and marketing of more efficient crops. This is also a cost-share program at the rate of at least 25 percent and the grants to individual farmers from the program cannot exceed 85 percent of the demonstration costs.

The total request for this effort is $8.7 million, with the eight state total for Section 303 at $3.33 million, Section 304 at $1.9 million and Section 305 at $2.87 million for FY 91. Nebraska plans to utilize $550,000 for Section 303 work, $400,000 for Section 304 work, and $50,000 for section 305 activities.

The Commission requests consideration be given to funding this important program.

SUMMARY

Thank you for the opportunity to share the Commission's recommendations with the subcommittee. As noted earlier, the Commission selected key programs and projects that are of direct interest to the Nebraska Natural Resources Commission. In addition, the Commission offers unified support to the comprehensive list of Corps of Engineers and Bureau of Reclamation projects and activities presented on behalf of Governor Orr.

STATEMENT OF KANSAS DEPARTMENT OF WILDLIFE AND PARKS

This letter is for the purpose of providing testimony for the written record before the Energy and Water Development Subcommittee hearings on the U.S. Army Corps of Engineers fiscal year 1991 budget.

During the current fiscal year, the appropriation for planning and design for the Missouri River Fish and Wildlife Mitigation Project has been effectively used by the Corps of Engineers. Throughout this process several meetings have occurred between the Corps and the states of Kansas, Missouri, Iowa and Nebraska. We are pleased with the progress that has been made during this time and are encouraged by the level of cooperation that has been demonstrated.

We strongly support the $429,000 included in the President's 1991 Budget for Fish and Wildlife Mitigation of the Missouri River Bank Stabilization and Navigation Project. These funds are necessary to continue the work which was initiated this year and complete the planning process of this project. In addition we request that language be included in the appropriation to direct the Corps of Engineers to begin acquisition of real estate necessary for the mitigation project with any remaining funds not needed for the planning and design process.

Thank you for the opportunity to provide testimony for the written record before the subcommittee.

STATEMENT OF BI-STATE DEVELOPMENT AGENCY, ST. LOUIS HARBOR, MISSOURI AND ILLINOIS

There has been a federal interest, with strong local and state support, in solving St. Louis Harbor problems for almost 26 years. This interest dates back to June, 1964 when the House Public Works Committee adopted a resolution concerning harbor sedimentation. This interest was broadened in May, 1971, when the Senate Committee on Public Works instructed the Corps to review pertinent studies to determine the advisability of providing improved commercial harbor facilities in the vicinity of St. Louis.

A resulting report was prepared, rigorously reviewed in Corps channels and then submitted by the Chief of Engineers to the Secretary of the Army on April 30, 1984, favorably concurring with the findings of the Board of Engineers for Rivers and Harbors. The Congress then authorized the project in the Water Resources Development Act of 1986, (P.L. 99-662). Funds were appropriated by the Congress and enacted into law by the President in FY'1985 ($600,000) and FY'1986 ($425,000). The recommended improvements would reduce siltation in the harbor on the Missouri side and provide additional docking facilities on the Illinois side by moving the Chain of Rocks Canal bank 210 feet. The length of the excavation would be 6900 feet. Then on May 6, 1986, the Assistant Secretary of the Army (Civil Works), stated in a memorandum that Federal participation in inland waterway harbor improvements were not warranted when:

> "(1) Resale or lease of lands used for disposal of excavated channel material can recover the cost of the improvements or (2) The acquisition of land outside the navigation servitude is necessary for construction of the improvements and would permit local interests to control access to the project".

Next an Engineer Circular, EC-1165-2-139, was issued to implement the above stated policy. The Circular discussed the use of the excavated materials to create flood-free land which then could be used for industrial development. Then on May 22, 1987, the Assistant Secretary, in a letter transmitting the

Report on St. Louis Harbor, said that the project would create an additional 1,080 acreas of flood-free waterfront land along The Chain of Rocks Canal and recommends no Federal participation.

The matter of creating flood-free lands with excavated materials is very simply not applicable in the case of St. Louis Harbor, period. The lands, to become available for industrial development, are already flood-free. Furthermore, on the Illinois side the 1080 acres of land to become available for development are primarily owned by the Army.

Local expectations were that the Army would provide the improvements authorized by Congress and local interests in Missouri and Illinois have worked to compliment the expected Federal action. This involves considerable man hours of planning and engineering as well as sizable amounts of funds (e.g., Missouri had set aside $1,200,000 for the project).

In summary, we respectfully request that this Committee recognize that this project was supported by a prior Administration. The creation of flood-free lands does not apply to St. Louis Harbor and the responsibility for the siltation problem is not clear. Significant prior committments of time and funds were committed by local sponsors acting in good faith. This was recognized by the Assistant Secretary in the case of the Southeast Regional Port Project which was allowed to proceed. These improvements were recognized in the Crops Report as being economically sound and will return significant national and regional economic benefits.

We are additional working with organizations from Missouri and Illinois to obtain a Department of Defense designation of Tri-City Regional Port District and the Mel Price Support Center in Illinois as a Military Inland Waterway Terminal. We anticipate large potential savings to be realized by the Department of Defense in transporation costs if this becomes a reality this year. This action further increases the need to fund this navigation project this year.

We request that the Committee consider providing $500,000 for the St. Louis Harbor Project in the Fiscal Year 1991 so that work may resume. Thank you for considering our request.

STATEMENT OF MISSOURI DEPARTMENT OF CONSERVATION

Dear Senator Johnston:

Thank you for this opportunity to provide testimony for the written record before the Energy and Water Development Subcommittee on the U. S. Army Corps of Engineers' FY'91 budget.

I would like to thank you for the FY 1990 appropriation originating from your committee to initiate the Missouri River Fish and Wildlife Mitigation Project. We believe the Corps of Engineers has efficiently used that money to begin the planning process, as we have had several meetings this past year and are quite satisfied with progress to date.

We have worked this past year with the Governors of Iowa, Nebraska, Kansas and Missouri Governor Ashcroft for continued appropriations. In response, the President has included an item in his budget for the mitigation project.

We support the $429,000 funding level as contained in the President's 1991 Budget for Fish and Wildlife Mitigation of the Missouri River Bank Stabilization and Navigation Project. We ask that the appropriation language provide that the Corps of Engineers be directed to initiate acquisition of real estate required for the project using any funds not needed for completion of planning and design activities. If additional funds are appropriated for the project, they could be used effectively. Priority projects proposed by the four state wildlife agencies for project initiation have an estimated cost approaching $8,000,000.

Thank you for the opportunity to provide comments and testimony to the subcommittee.

STATEMENT OF LOUP BASIN RECLAMATION DISTRICT

Mr. Chairman and members of the Committee. My name is Tom Knutson and I am General Manager of the Loup Basin Reclamation District, as well as the Farwell and Sargent Irrigation Districts in Farwell, Nebraska.

The Farwell Unit is a project that is located in the central part of Nebraska in Howard and Sherman Counties and provides water to 50,051 acres of land. Construction of the unit was initiated in 1959 and completed in 1966. Irrigation water deliveries began in 1963 and water was available to the entire project by 1966. The operation of the project was turned over to the Districts in 1966.

While the Farwell Unit has provided many benefits to Howard and Sherman Counties, it has, however, had some very negative impacts which we want to discuss with you today. The project was contructed, as was the practice in that period of time, without any lining of the canals or laterals; thus, only about 55 percent of the water that was diverted from the Middle Loup River is delivered to the farmers at the turnout. The water not delivered is lost primarily through seepage from the canals and laterals back into the groundwater table causing us numerous problems in the region.

We wish to thank the Committee and the Congress for their past support in funding to help correct the problem. We request and urge the Committee to support the President's request of $460,000 for FY 1991 for the Farwell Unit so that we can continue to correct the problem.

The dollars appropriated for FY 1990 were used to convert 13 miles of lateral into pipe. At this time, we have approximately 100 miles of the District laterals in pipes, thus reducing the seepage from those laterals to zero. We estimate that approximately 100 additional miles could be converted to pipe if funds were made available. The dollars requested for FY 1991 would be utilized for that continued effort.

This water conservation initiative which started a number of years ago, has provided the District a tremendous savings in water as well as a maintenance cost savings. The Congress and it's support has played a very positive role in that regard and we applaud tham for their support.

The Sargent Unit is a project that is located in Custer and Valley counties and it provides water to 13,922 acres. Construction of the system began in 1955 and was completed in 1959. The project was constructed, as was the practice in that period of time, without any lining of the canals or laterals. The water losses in diversions from the Middle Loup River have averaged about 40 percent in the last ten years.

The water users desire to have their laterals buried in pipe which would enable them to save water through the use of gated pipe for field deliveries. The Sargent Board of Directors feels the same way and last summer they requested the Bureau of Reclamation to prepare a Rehabilitation and Betterment (R&B) report for the purpose of obtaining a loan.

The pipe lateral program would definitely constitute an improvement and betterment of the project's distribution system which includes about 45 miles of laterals. These laterals were constructed 32 years ago, well before the extensive use of polyvinyl (PVC) pipe. The existing open-ditch laterals require a large annual expenditure for weed control chemicals, as well as frequent cleaning and repairs. In addition, these laterals are highly susceptible to livestock damage.

The proposed rehabilitation and betterment program does not result from a lack of adequate maintenance activities by the irrigation district. In fact, the facilities are presently in good condition and the district has consistently achieved a satisfactory level of maintenance of the transferred project facilities. We wish to assure the Committee of that fact.

The cost of implementing the rehabilitation and betterment program presently exceeds the financial resources of the district except as a long term obligation. The only revenues the district receives are from the water users. By obtaining Federal financing, the district could complete an R&B program.

The Sargent Irrigation District respectfully requests the Committee to include $200,000 in the FY 1991 budget for the Sargent Unit. The bureau officials involved in the study indicate that it would take about $2 million to complete the rehabilitation effort. The bureau report will be done in the very near future.

If dollars are appropriated and made available to the district, they will utilize their own staff for installation of the pipe. In addition, the district would raise their water rates to the level required to repay the loan. Again, the district respectfully requests the Committee to include $200,000 in the FY 1991 budget for the Sargent Unit.

We thank you Mr. Chairman and members of the Committee for your support. It means alot to those of us in the Loup Basin Reclamation District in Nebraska.

PREPARED STATEMENT OF SENATOR BOSCHWITZ

Senator DOMENICI. Also, Senator Boschwitz has submitted a statement as well which will be placed in the record.

[The statement follows:]

STATEMENT OF SENATOR BOSCHWITZ

Thank you for the opportunity to present this statement in support of the St. Paul Flood Control Project of the Army Corps of Engineers.

I want to thank the Members of the Subcommittee for the support you have given to this needed project in the past. As you know, $400,000 was allocated for FY 1988 to begin General Design Memorandum studies. An additional $350,000 was allocated for FY 1989 to continue the process and $450,000 was allocated for FY 1990 to move toward completion of preconstruction engineering and design.

Your decision to make this investment over the past three years was a wise one. Following a record flood in 1952, the Corps was directed to design and construct a flood barrier along the Mississippi River across from downtown St. Paul. This was completed in 1964. The record floods of 1965 and 1969 demonstrated that added flood protection was needed. The Corps conducted a study of this problem and recommended in 1981 that the levee/floodwall be increased by an average of four feet in height.

I now hope to see construction begin on this badly needed project during 1991 -- ten years after the Corps' recommendation and 26 years after the flood that brought President Lyndon B. Johnson to St. Paul to view the devastation.

I am happy to report to you that the Corps and the City of St. Paul are working together on this effort. The flood control project is an integral part of the St. Paul Riverfront Redevelopment Plan which was adopted by the City in 1987. The area involved is located in the heart of the City and is critical to its economic health. The present floodwall protects an estimated $164 million of existing investment. Under the City's Riverfront Redevelopment plan, the amount of investment in the protected area is projected to more than double to a total of $322 million worth of public and private investment.

The cost of basic flood protection in this project is now estimated to be $16.3 million. Of this, the local share is to be $6.8 million according to the Corps' General Design Memorandum dated March, 1990.

As you can see, a very reasonable investment of federal dollars here will lead to a major benefit along the Mississippi River in the capital city of our state.

Unfortunately, the President's FY 1991 budget does not include a request for funds to start construction of this project. Representatives of the City were advised that new start monies were a live possibility as far into the budget-writing process as late November 1989, when the Office of Management and Budget was doing its final cut on the Corps of Engineers FY 1991 proposed budget. When the budget came to Capitol Hill in January, however, it contained only an additional $397,000 for engineering work.

I ask this Subcommittee to look beyond engineering and to begin to fund the construction of this project. Very modest outlays (less than $500,000) can be anticipated for FY 1991, but budget authority to begin construction would keep us from falling further behind schedule than we have already. In this way, the flood protection we need can be provided and the many other local public and private investments that depend on the floodwall can go forward.

PASSAIC RIVER BASIN FLOOD CONTROL PROJECT

STATEMENT OF J.B. WILEY, JR., PASSAIC RIVER ORGANIZATIONS TO ENCOURAGE CONSTRUCTION OF THE TUNNEL

Senator DOMENICI. Mr. J.B. Wiley, Passaic River Organizations, could you please come forward.

Mr. WILEY. Thank you, Mr. Chairman. It is Passaic, as you have correctly identified it, named by the Indians some time ago. My name is J.B. Wiley, and I represent PROTECT, which is a committee of the New Jersey Alliance for Action. The Alliance for Action of the State of New Jersey is a statewide coalition of municipal and county government, of business, academic, professional, and civic organizations joined together in support of those efforts in New Jersey which improve the quality of life for the people of New Jersey.

The alliance's involvement in this problem of flooding in the Passaic River basin extends back to the beginning of the alliance, which was approximately 16 years ago. PROTECT, the committee of which I am the chairman, was formed in 1988 to bring together municipal governments, counties, public agencies, organized labor, business interests, professional and civic groups, and concerned citizens united in support of the Passaic River flood control tunnel. This project will provide flood protection for the more than 100 municipalities which lie within the Passaic River Basin.

I am licensed by the State of New Jersey as a professional planner and also as a professional engineer, and I am licensed by the State of New York and the surrounding States also as a professional engineer. In addition, I am certified by the National Association of Environmental Professionals as a certified environmental professional.

In prior years, I have both lived and worked in the Passaic River basin, in the flood hazard area, and I have personally experienced the devastation caused by the destructive force of flooding which takes place in the Passaic River and its tributaries. The devastation is responsible not only for extensive property damage but in the past has caused loss of life.

The individuals and organizations who have endorsed the concept of the Passaic River tunnel flood control plan are listed on the testimony which has been submitted.

The extensive studies of the Corps of Engineers over a number of years has finally evolved a plan for protection from the serious and recurrent flooding that takes place in the Passaic River basin. More than 150 structural and nonstructural plans were studied by the Federal and State officials, and the State of New Jersey selected and endorsed the Passaic River tunnel plan.

This unique plan will drain the floodwaters away from the populated and damage-prone areas and direct this floodwater through a large underground tunnel and empty it harmlessly into a waterway capable of handling the flows. This present plan will use a very large underground tunnel system to finally resolve this flooding problem, and as a consequence will result in a minimum of disruption to persons and properties at the surface.

Previous plans encountered a certain amount of resistance from some of the residents within the basin because of the extensive surface works which would have been required by those earlier plans. We note with considerable enthusiasm that this plan involves the acquisition and permanent preservation of more than 5,000 acres of wetlands in the upper Passaic. This acquisition and permanent protection is enthusiastically endorsed by virtually all local interests.

While a few individuals have expressed the view that a better plan would be to purchase the properties which are affected by flooding, evict the residents, destroy the houses, our examination of that proposal shows it to be entirely impractical. Aside from the human aspect of evicting people and destroying their houses, the simple fact is that to clear out all of the properties affected by the storm flood levels for which the tunnel plan will protect would require the removal of about 15,000 residents and another 2,000 buildings, at a cost of about $4 billion. That is about four times the estimated cost of the tunnel plan which is proposed. In addition, any such buyout would have to be paid entirely by local interests.

Six years ago today, on April 4, 1984, there was a large and destructive flood. It resulted in four deaths. It resulted in $390 million in damage. That sort of a flood can recur at any time, and should the flood of record, which occurred in 1903, occur again, as inevitably it must, the damages will exceed $2 billion.

We also note that after careful study, New Jersey's then-Governor Keane and the New Jersey Department of Environmental Protection have expressed support for the tunnel plan, and the State has agreed to be the non-Federal sponsor. In addition, we note that there is considerable interest in extending the tunnel to an outlet in Newark Bay. Both of New Jersey's Senators, Bill Bradley and Frank Lautenberg, as well as Congressmen Roe, Gallo, and Torricelli, have expressed their specific support of a tunnel plan, the tunnel plan, with an extension of the outlet to Newark Bay.

While we support and appreciate the $5 million in the President's fiscal year 1991 budget, we wish to bring to your attention that this is a major project. As such, the Passaic River mainstem feasibility report has recommended the preparation of a preconstruction engineering and design study for this flood control tunnel plan.

PROTECT will support the tunnel plan as it is proposed currently or with an extension to Newark Bay. Therefore, we support an increase in the fiscal year 1991 budget request in the amount of $2.5 million, which reflects the need to provide the full effort necessary to complete the preconstruction engineering and design phase. In the light of these considerations and the need for flood control, we urge the Senate to appropriate $7.5 million for the preconstruction engineering work for fiscal year 1991 so that this project may be completed before the next destructive flood causes the extensive damage which will inevitably otherwise occur.

Senator DOMENICI. How much are you asking in excess of what the President asked for?

Mr. WILEY. The President's budget request for fiscal year 1991 is $5 million; we request $7.5 million.

Senator DOMENICI. Is the President's $5 million for the same effort that you just described?

Mr. WILEY. Excepting, sir, the President's budget contemplates a tunnel outlet as originally proposed by the Corps some 6 miles up the Passaic River. The two Senators from New Jersey and the three Congressmen whose names I mentioned—Congressmen Roe, Torricelli and Gallo—all of those have recently announced their determination that the tunnel outlet should be moved some 6 or 8 miles so that it exits in Newark Bay, which will require more engineering and effort by the Corps in the year to come.

Senator DOMENICI. So the $2.5 million increase is because that project that must be designed now and engineered is a different project than the $5 million was going to pay for, and that presumably will eventually cost more for the construction part?

Mr. WILEY. That is correct, sir.

Senator DOMENICI. I understand it. Clearly, we all know that this is one of the most flood-prone areas in the country. The Corps of Engineers has found it to be one of the top two or three, I think. They are on board in terms of being involved as the lead agency.

Let me just ask: with reference to this $7.5 million, I am not familiar with the overall project. Is it the kind of project—You are an engineer and know something about this that could be designed in pieces, rather than all of it having to be designed at once?

Mr. WILEY. In effect, sir, that is what will happen under any plan. It will be designed piece by piece. The construction which now could start, if Congress so directs and authorizes, that construction could start in approximately 1996. That start in construction would be on that first portion for which the design had been completed. The engineering would continue for those portions which would be constructed in the ensuing years.

Senator DOMENICI. I guess I am wondering why for preconstruction design, why is there a direct relationship of $2.5 million to an added part if we are designing it in pieces?

Mr. WILEY. I do not know that there is necessarily an absolutely direct connection. One of the essential pieces of information is that the Corps has the capability of making use in fiscal year 1991 of $7.5 million. The President in his budget recommends $5 million. We would like to propose, for all of the reasons that I have recited, that it be up to the full capability of the Corps; namely, $7.5 million.

Senator DOMENICI. I understand. Did you have anything further?

Mr. WILEY. No, sir; except to thank you and the committee for your attention to our request.

Senator DOMENICI. You are welcome. We will make your statement a part of the record, in the event you did not read it in its entirety. We thank you for your effort and compliment the group that you represent. This kind of project clearly requires such or you cannot get things done.

I gather you have most of the local support? There may be some who do not like it?

Mr. WILEY. There is a small and vocal group who would prefer to see flooding continue. The vast majority of citizens want floods ended.

Senator DOMENICI. Do those who oppose it live in the flood-prone area?

Mr. WILEY. Some of them do; not very many.

Senator DOMENICI. We thank you very much.

[The statement follows:]

STATEMENT OF J.B. WILEY, JR.

"PROTECT" (Passaic River Organizations To Encourage Construction of the Tunnel) is a committee of the New Jersey Alliance for Action. The Alliance for Action is a statewide coalition of leaders from municipal and county governments, business, academic, labor, professional and civic organizations. The Alliance for Action concerns itself with advancing those causes which improve the economy and quality of life for New Jersey's 7.8 million residents.

"PROTECT" was formed in 1988 to bring together New Jersey municipal governments, counties, public agencies, organized labor, business interests, professional and civic groups and concerned citizens united in support of the Passaic River Tunnel Plan.

There is considerable interest from both New Jersey's Senators, Bradley and Lautenberg, and Congressmen Roe, Gallo and Torricelli, in extending the Tunnel to an outlet in Newark Bay. Therefore, we support an increase to the FY '91 budget request by $2.5 million, which reflects the need to provide the full effort necessary to move the pre-construction engineering and design phase to completion.

"PROTECT" urges the Senate to appropriate $7.5 million for the continued engineering and design of the Tunnel Plan and to authorize the project so it may be constructed before the forces of nature have another opportunity to destroy property and devastate human life.

Mr. Chairman and Members of the Committee:

My name is J.B. Wiley, Jr., and I represent "PROTECT" (Passaic River Organizations To Encourage Construction of the Tunnel). "PROTECT" is a committee of the New Jersey Alliance for Action. The Alliance for Action is a statewide coalition of leaders from municipal and county governments, business, academic, labor, professional and civic organizations. The Alliance for Action concerns itself with advancing those causes which improve the quality of life for New Jersey residents. The Alliance for Action's involvement in solving the flooding in the Passaic River Basin began with the inception of the Alliance some 16 years ago as a result of the severe flooding in this region.

"PROTECT" was formed in 1988 to bring together New Jersey municipal governments, counties, public agencies, organized labor, business interests, professional and civic groups and concerned citizens united in support of the Passaic River Tunnel Plan. This project will provide flood protection for more than 100 municipalities in New Jersey which lie within the Passaic River Basin.

In addition to being a Professional Engineer licensed by New Jersey, New York and three other nearby states, I am certified by the National Association of Environmental Professionals.

In prior years, I have both lived and worked within the flood hazard area of the Passaic River, and have personally experienced the devastation caused by the destructive force of flooding which takes place in the Passaic River and its tributaries. This devastation is not only responsible for extensive property damage, but even more critical, the loss of life.

The individuals and organizations which have endorsed the concept of the Tunnel Plan are attached to this testimony.

The extensive studies of the Corps of Engineers have finally evolved a plan of protection from the serious and recurrent flooding in the Passaic River Basin. Over 150 structural and non-structural plans were studied by Federal and State officials; and the State of New Jersey selected and endorsed the Passaic River Tunnel Plan. This unique plan will drain flood waters away from the populated and the damage prone areas, divert this flood water through an underground tunnel system and meter the outlet discharge into a waterway capable of accommodating the increased flow.

The present plan will use a large underground tunnel system to resolve the flooding problem, and as a consequence, will result in a minimum of disruption to persons and properties at the surface. Previous flood control plans have encountered resistance from some residents within the basin because of the extensive surface works which would have been required. We note with considerable enthusiasm that this plan involves the acquisition and permanent preservation of more than 5,000 acres of wetlands in the upper Passaic Basin. Acquisition, and thus permanent protection, is enthusiastically endorsed by virtually all local interests.

While a few individuals have expressed the view that a better plan would be to purchase the properties which are affected by flooding, evict the residents, and destroy their homes, our examination of this proposal shows it to be entirely impractical. Aside from the human dimension of evicting people and destroying their homes, the simple fact is that to clear out all of the properties impacted by the storm flood levels would involve the relocation of approximately 15,000 residents and another 2,000 buildings at a cost of over 4 billion dollars. That is about four times the estimated cost of the recommended Tunnel Plan. In addition, the entire cost of this alternative would have to be paid by the State of New Jersey.

The destructive flood of April 1984 made it necessary for over 9,000 homes to be evacuated, and resulted in 4 deaths. One fireman died attempting to rescue a family from their home. The damages which resulted from the flood in 1984 amounted to approximately $370 million. A repetition of the record flood of 1903, which can of

While we support and appreciate the 5 million dollars in the President's FY '91 budget, we wish to bring to your attention that this is a major project and as such, the Passaic River Main Stem feasibility report has recommended the preparation of a pre-construction engineering and design study for this flood control plan.

"PROTECT" will support the Tunnel Plan as it is proposed currently, or with an extension to Newark Bay. Therefore, we support an increase to the FY '91 budget request by 2.5 million dollars, which reflects the need to provide the full effort necessary to move the pre-construction engineering and design phase to completion, in light of these considerations and the need for Passaic River Basin flood control.

We urge the Senate to appropriate 7.5 million dollars for the continued engineering and design of the Tunnel Plan and to authorize the project so it may be constructed before the forces of nature have another opportunity to destroy property and devastate human life.

On behalf of "PROTECT", I would like to thank you for the opportunity to present our position to you, Mr. Chairman and the Members of your Subcommittee.

TUNNEL PLAN ENDORSEMENTS

The Pompton/Passaic Dual Inlet Tunnel Plan has received numerous endorsements, including:

The Honorable Dean Gallo, United States House of Representatives
The Honorable Robert Roe, United States House of Representatives
The Honorable Leanna Brown, New Jersey State Senate, 26th District
The Honorable Joseph Bubba, New Jersey State Senate, 34th District
The Honorable Alex DeCroce, New Jersey State General Assembly, 26th District
The Honorable Robert J. Martin, New Jersey State General Assembly, 26th District
New Jersey Department of Environmental Protection
New Jersey Society of Professional Engineers
Association of Mechanical Engineers-NJ
Consulting Engineers Council-NJ
New Jersey Society of Municipal Engineers
American Society of Civil Engineers-NJ Section
Morris County Board of Chosen Freeholders
Passaic County Board of Chosen Freeholders
Borough of Butler
Borough of Fair Lawn
Borough of Florham Park
Borough of Lincoln Park
Borough of Pompton Lakes
Borough of West Paterson
City of Paterson
East Hanover Township
Fairfield Township
Pequannock Township
Township of Little Falls
Township of Montville
Wayne Township
Mayor's Flood Advisory Committee of Pompton Lakes
Morris & Sussex Counties Building Trades Council
Regional Water Management Board
Bergen County Building Trades Association
Natural Resources Citizen Advisory Committee
Heavy & General Construction Laborers Local #472
Building Contractors Association-NJ
Flood Residents Coalition
Iron Workers Local Union #483

National Electrical Contractors Association
New Jersey Asphalt Pavement Association
Association for Bridge Construction and Design
Construction & General Laborers Local Union #172
New Jersey Builders Association
Associated General Contractors Association-NJ
Utility and Transportation Contractors Association-NJ
New Jersey Industrial Development Association
Electricians Local Union #102 I.B.E.W.
Passaic County Building Trades Council
Operating Engineers Local Union #825
New Jersey Alliance for Action

Lock Haven, PA, Local Protection Project—Opposition

STATEMENT OF EDWARD LEE ROGERS, COUNSEL, WEST BRANCH VALLEY FLOOD PROTECTION ASSOCIATION

ACCOMPANIED BY:

LYNN VANNUCCI, PRESIDENT, WEST BRANCH VALLEY FLOOD PROTECTION ASSOCIATION

GEORGE GARLICK III, WEST BRANCH VALLEY FLOOD PROTECTION ASSOCIATION

Senator Domenici. Our last witness is Edward Lee Rogers, West Branch Valley Flood Protection Association, the Lock Haven flood protection project.

Mr. Rogers?

Mr. Rogers. Thank you, Senator. I am here today to represent the West Banch Valley Flood Protection Association. The association is a countywide association in Clinton County, PA, with over 1,000 members.

It opposes any appropriations for the construction of the proposed Lock Haven flood protection project at Lock Haven. Many members of the association are residents of the city of Lock Haven and residents of the flood plain involved. The association has the support of many more thousands of Clinton County voters who agree with the association's position that the project should not be constructed.

LOCAL SPONSORS ABILITY TO PAY

In 1987, the project was rejected by a margin of 2:1 in a countywide, nonbinding referendum. I should point out that Clinton County has a population of approximately 38,000 persons. The project is estimated to cost $87 million in 1989 figures. The local sponsor lacks the financial capability to carry its local share of the project cost and the Commonwealth of Pennsylvania will not make up the shortfall.

Under sections 103 (a) and (b) of the Water Resources Development Act of 1986, Public Law 99-662, the local or non-Federal cost-sharing responsibility of the city of Lock Haven is 25 percent of the total cost of the project assigned to flood control. That comes to more than $22 million, and the city is on record that it cannot afford it. Accordingly, the city has attempted to obtain $16.6 million of that cost from the Commonwealth.

STATE SHARE 50 PERCENT

In response to the city's request, the Commonwealth of Pennsylvania has recently reiterated its commitment to contribute only 50 percent of $11.1 million as its share of the non-Federal costs of the project. I refer to the letter that we submitted, dated January 31, 1990, from Arthur Davis, the secretary of the Pennsylvania Department of Environmental Resources, to Diann H. Stuempfle, the mayor of Lock Haven.

Under Pennsylvania law and regulations, the Commonwealth may compensate a local sponsor of Federal flood control projects up to 50 percent of the non-Federal share of the project. By continuing its policy of contributing 50 percent of the non-Federal share of the total project cost, the Commonwealth has actually increased its funding over its past practices. I quote from Secretary Davis' letter:

> Prior to the passage of the Federal Water Resources Development Act of 1986, our policy was to pay 50 percent of only the costs incurred by sponsoring municipalities in carrying out their land acquisition and relocation responsibilities.

So the Commonwealth has actually been very responsible and responsive with regard to this project. It is simply adhering to its given policy. The Commonwealth will not increase its commitment beyond the $11.1 million, as that would set an unwanted precedent for increases in funding of future water projects around the State.

LOCAL COOPERATION AGREEMENT

Despite the $11.1 million allocation from the Commonwealth of Pennsylvania and the $7.6 million in funds appropriated in Federal funds last year for this project, the city of Lock Haven and Woodward Township are still unwilling to sign the local cooperation agreement as guarantors of the authority's overall obligations as local sponsor. Woodward Township, which is in the flood plain, continues to go on record as not willing to contribute any funding to the construction of the project because it will suffer additional flooding induced by the project. Accordingly, the local cooperation agreement remains unexecuted, even though there was Federal funding provided last year.

Likewise, the Pennsylvania Infrastructure Investment Authority, or PENNVEST, has consistently over the past several years denied Lock Haven's repeated requests for a $1.5 million loan to relocate major sewer trunk lines along the river bank. We refer to the most recent letter in our submitted testimony.

In short, the local sponsor cannot use any Federal funds for this project because it cannot satisfy the local cost-sharing requirements of the 1986 act. There is also no indication whatsoever that the city will be able to provide its share of the cost of the project in the future.

In May 1988, the city council of Lock Haven agreed to limit the city's overall commitment to the project to not more than $1.5 million. That limit was reaffirmed at its meeting of February 5, 1990. The mayor is reported to have stated:

> City residents cannot afford to pay more for the project through higher taxes, and the city would stick to its $1.5 million funding cap.

REAL ESTATE TAX BASE

The current real estate tax rate rate in Lock Haven in 9 mils. The $1.5 million commitment, plus the additional $3.3 million required from this city to make up the balance of the $22 million needed would require the rate to be raised by approximately 8 mils, or nearly doubled. The city has now requested donations through newspaper advertisements and has sought pledges of support from owners of tax-exempt properties to raise the $3.3 million necessary to continue the project. The executive director of the local sponsor, the authority, has acknowledged:

> The amount people pledged to donate would not cut the amount their taxes would increase. The donation is over and above the tax increase that would be necessary to pay for the project.

We have the source of that quote in the record.

Doubling the taxes of the residents of Lock Haven would be a burden that most of us cannot and do not wish to carry. Even now, the city is unable to maintain its existing infrastructure without substantial aid from the outside. Furthermore, in the future, maintenance costs and rehabilitation costs would be prohibitive for these taxpayers. The city cannot pay its own way now to support its existing infrastructure.

AREA DEVELOPMENT NEEDS

I would also point out that this project, according to the Corps itself, is not necessary to induce industrial growth or relocation. In the Corps general design memorandum, it is stated that there are no intensification benefits or relocation benefits related to industrial development with regard to this project.

Two nearby industrial parks that are outside the flood plain are vacant and are available for any industrial expansion that would be desirable in the area. The Corps interviewed industrial leaders within the flood plain involved. The present lack of flood protection in the flood plain has not altered their existing operations or their plans for future operations.

PIPER CORP. MOVING BACK

I just received this morning a letter from the Piper Corp. This is the Piper Aircraft Corp. They were previously located in the flood plain involved, in Lock Haven. They are moving back to that site, with full knowledge that the dike is not in place and without any request on their part that the dike be put in place. In fact, they are on record—and I will provide this letter to the committee, if I could have permission to do so, because I just received it this morning. They say:

> There are three aspects of the proposed project that continue to concern us——

I am reading a letter to Lynn Vannucci, who is on my right, who is the president of the West Branch Valley Flood Protection Association. This is signed by John R. Piper, the president.

> There are three aspects of the proposed project that continue to concern us. First, as stated repeatedly, we cannot afford any increased taxes that might result from such a project. Second, the planned earthen levee at the east end of the runway may present a safety hazard, especially in an emergency situation. Third, we have stated continually that we cannot stand any interruptions to flight operations during construction

which would be inevitable if the project were to go forward.

The letter goes on to state that they are not opposed to any flood protection, but they do have these concerns about this project. This is an example of an industrial corporation which is willing to move back into the flood plain without the levee. So there is no argument here whatsoever that this project will provide any industrial benefits whatsoever to the city.

In our prepared statement, we point out the highly detrimental social and environmental and aesthetic and cultural costs of this project to this area. Lock Haven is historically a river town. Its recreation and tourism is dependent upon the beautiful vistas and the scenery of the area that would be hopelessly wiped out by this massive wall that the Corps wants to impose on this town.

The voters of this region have gone on record as being strongly opposed to this project and, therefore, we ask that it not be funded.

Senator Domenici. Lynn, did you want to add something?

Ms. Vannucci. No; thank you for the opportunity to do that, though.

BENEFIT-COST ANALYSIS

Senator Domenici. Let me just say, clearly Congress relies upon the Corps of Engineers to go out and do very detailed assessment work. They do that in stages. I am not familiar with your project, but I am familiar with similar ones. I assume they have been out trying to find out how to solve the flooding problem, if there is one. I also assume that the project would not be before us if they did not find that there is a cost-benefit ratio that fits our definition. That essentially is a pretty good criterion for us, and generally is a pretty good criterion for the local people, because it means that substantially more damage will occur over a given timeframe than the cost of the project, and that is what the ratio is.

I take it that you are not here saying there is no serious flood problem in this area and in your community?

Mr. Rogers. No, Senator; there is a serious flood problem along the west branch of the Susquehanna River. The point is that we have done our own analysis of the cost-benefit ratio and we believe that the ratio is substantially less than unity. We think we can demonstrate that.

The purpose of the 1986 Water Resource Development Act, as I am sure you are familiar, the cost-sharing requirement is to assure that the local sponsor truly does believe that the project is worth their donation, their contribution. This community is on record. They have voted. They have said, "We do not think this project is worth the cost."

Senator Domenici. When was the last time you had a flood?

Mr. Garlick. 1972.

Ms. Vannucci. The last major flood.

Senator Domenici. Was it a big one?

Mr. Rogers. Yes; it was the Agnes hurricane, Senator.

Senator Domenici. Do you think that 3 months after the flood, the vote might have been different?

Ms. Vannucci. No, sir; there was a vote in 1973 and our city council rejected the proposition at that time for a dike levee because they did not want to destroy the town.

Senator **Domenici**. Frankly, we are going to rely on the record and the Senators from your area. I assume that there is money in this budget. You were not here but just for one morning. You know there are plenty of demands on this money. Obviously, if it does not go to you all, it is going to go somewhere. We have already heard a couple of requests this morning that could use part of it, since we do not have money in the budget for some of them. It is not my business, in the sense that—you are absolutely right that the 1986 act requires local participation. I just hope that you all understand that if we do not fund it, we only wait around for a certain amount of time and then you are not going to have any Federal money for the project. I guess you all know that.

ALTERNATIVE FLOOD CONTROL PLANS

Mr. **Rogers**. Senator, one of the things our association is interested in is developing alternative scenarios. We have looked at some of the planning that is being done by the Susquehanna River Basin Planning Commission and there are alternative approaches, regional approaches, that could be taken.

I have been informed by the Assistant Secretary's Office of the Army, in charge of the Corps of Engineers, that they cannot really go forward with alternative planning. They cannot really participate in it so long as the project is outstanding; that is, there is funding outstanding for the project. So we are stymied right now with alternative planning, so long as this committee continues to provide appropriations for the project because the Corps does not feel it is appropriate for it to move into the alternative planning phase so long as that is the situation.

So we are very anxious to see the funding cease. This will be 2 years in a row that the local sponsor has failed to demonstrate its ability to carry its burden of the local cost-sharing requirement of law. So it seems to us a very appropriate time to terminate funding and to allow the alternative planning to have an opportunity to develop. As I say, there are alternatives we have discussed at considerable length, but we could not go forward and get any money for it because this existing appropriation was outstanding as of last year.

There are some good things that can be done in regional planning. We are talking about floodproofing. We are talking about fully adequate warning systems. We are talking about some possible upstream improvements, flood retention, even structural projects possibly upstream.

We have looked into those, but we do not have the resources ourselves, nor do other similar farmers' groups which are on record as being opposed to this project. We are very concerned about their farmlands and the adverse effect on their very rich farmlands from this project and from similar type local levee projects. They are behind this 100 percent, and I have met with them, but we cannot move forward so long as this appropriation is outstanding.

Senator **Domenici**. Let me just say, it is not very often, at least recently, that we get a request not to spend some money or to throw out a project that is this far down the line. Really, I do not speak for the whole committee, and I have not had a chance—nor has the committee, I would imagine—to speak to the Senators, and one of them is on the Appropriations Committee, and, in fact, on this subcommittee.

We appreciate your testimony. You have been very forthright. I can just say to you, your community is not unique. There are a couple of projects around where local communities do not want to come up with the local resources, and the projects are in precarious positions. I happen to have one in my State. In that case, there is a consensus that they need the project. There is a little quibbling, but they do not want to come up with the money. That may cause them also to lose the project but for a slightly different reason than you. We will take this into consideration. I assume there is no broad-based organized support of a citizen type in favor of the project?

Mr. Rogers. That is correct. I think Lynn can address that.

Ms. Vannucci. That is correct; yes.

Senator Domenici. What is the benefit area? Do you speak for a city? Is the area that should pay the tab bigger than what you represent?

Ms. Vannucci. Yes; not pay the tab, but what we are concerned with is, the Susquehanna River Basin Commission stated that Federal moneys used to protect this small area would then be precluded from protecting a larger area.

Mr. Rogers. The point is that the basin commission staff, back in the 1970's when they analyzed this proposal, said that the development of ad hoc, town-by-town dike projects will preclude a more comprehensive regional approach. Therefore, the staff itself recommended that these individual projects be deferred until a regional approach could be developed, and it never was because towns pushed ahead for individual projects.

Senator Domenici. We may run into the same problem and you all may, too, when you try to put a bigger area together. You will not get consensus either. Frankly, that is really local, and that is why we put in the cost sharing.

The reason I asked the question about who benefits versus who pays. There is an anomaly growing up out in the country in a number of these projects. I have seen it in two or three already. The local community that has the capability to go to the voters for a bond election or to put up their money and issue revenue bonds or whatever frequently is less than the jurisdiction benefited. Out in our country, there are cities and counties, and frequently the county is benefited but the city takes the vote or vice versa. So you do not get a natural melding of assessing all the beneficiaries because sometimes you do not even have jurisdiction to assess. That is why I was asking here, and maybe you answered.

Mr. Rogers. Maybe we did not give you an adequate answer. The city itself, the actual benefits would be localized to the city, but Woodward Township is being asked to contribute. In fact, their contribution presumably would be necessary to make up the local cost-sharing. They will suffer induced flooding from the project. They are not going to contribute, even though the city has been after them to do so. The county will be adversely affected, and that is the reason the vote came in 2:1 against the project at the county level, in a nonbinding referendum in 1987. There will be exacerbated flooding on the lands.

Senator DOMENICI. I understand. We appreciate your testimony and your taking time to come here. This is what you do on behalf of your community. That is what this country is all about, and we thank you very much.

[The statement and letter follow:]

STATEMENT OF WEST BRANCH VALLEY FLOOD PROTECTION ASSOCIATION

I. Introduction and Summary.

The West Branch Valley Flood Protection Association is a bi-partisan, county-wide (Clinton County, pop. 38,000) organization with over 1,000 members, including many residents of the City of Lock Haven, which has many more thousands of County voters who support the Association's position that the proposed Lock Haven Flood Protection project (hereinafter "project" or "dike/levee") should not be constructed. In 1987, the project was rejected by a margin of two to one in a county-wide non-binding referendum. The Commonwealth of Pennsylvania will not fund more than 50 percent ($11.1 million) of the non-federal share of project costs ($22.14 million), despite the request by the City of Lock Haven for $16.6 million. The community cannot afford the project, and cannot use any federal funds that might be appropriated. Furthermore, if constructed, the project, which is estimated to cost $87 million dollars (1989 figures), would have highly adverse economic, social, and environmental impacts, and an actual cost-benefit ratio of substantially less than unity. It should not be funded.

II. The Local Sponsor Lacks the Financial Capability to Carry its Local Share of the Project Cost, and the Commonwealth of Pennsylvania Will Not Make Up the Shortfall.

The Lock Haven Flood Protection Authority ("Authority"), the local sponsor of the project, does not have the financial capability necessary to act as local sponsor in accord with criteria established under federal law and the Corps' rules governing local cost-sharing requirements. In June, 1989, the Corps expressed concern that under the "legal relationships" creating the Authority as the local sponsor, it "is completely dependent upon the Commonwealth of Pennsylvania, City of Lock Haven, and Woodward Township to perform the Authority's responsibilities and obligations under the [proposed] LCA [Local Cooperation Agreement]." (Corps' letter of June 27, 1989, at 1, to Robert C. Yowell, Executive Director of the Authority.). (See the Association's Supplemental Statement to this Committee dated August 1, 1989, at 1.)

Under Sections 103(a) and (b) of the Water Resources Development Act of 1986, Public Law 99-662, the local ("non-federal") cost-sharing responsibility of the City of Lock Haven is 25 per cent of the total costs of the project assigned to flood control. That comes to more than $22 million, and the city is on record that it cannot afford it. Accordingly, the city has attempted to obtain $16.6 million of that cost from the Commonwealth.

In response to the city's request, the Commonwealth of Pennsylvania has recently reiterated its commitment to contribute 50 percent, or $11.1 million, as its share of the non-federal costs of the project. (See letter dated January 31, 1990, from Arthur A. Davis, Secretary, Pennsylvania Department of Environmental Resources, to Diann H. Stuempfle, Mayor of Lock Haven.) Under Pennsylvania law and regulations, the Commonwealth may compensate a local sponsor of Federal flood control projects up to fifty percent of the non-Federal share of the project. (See Association's Statement to this Committee, April 12, 1989). In his letter, Secretary Davis pointed out that by continuing its policy of "contributing 50 percent of the non-Federal share of the total project costs," the Commonwealth has increased its funding over past practices: "Prior to the passage of the Federal Water

Resources Development Act of 1986, our policy was to pay 50 percent of only the costs incurred by sponsoring municipalities in carrying out their land acquisition and relocation responsibilities." Therefore, the Commonwealth of Pennsylvania will not increase its commitment beyond the $11.1 million as it would set an unwanted precedent for increases in funding of future water projects around the state. Id.; see also, Dike Project Dead in the Water ?, Lock Haven, State not Budging on Money Issue," Williamsport Sun-Gazette, Tuesday, March 6, 1990, at 1, cols. 1, 4.

Despite the $11.1 million allocation from the Commonwealth of Pennsylvania and the $7.6 million in funds appropriated in federal funds last year for this project, the City of Lock Haven and Woodward Township are still unwilling to sign the LCA as guarantors of the Authority's overall obligations as local sponsor. Woodward Township continues to go on record as not willing to contribute any funding to the construction of the project because it will suffer additional flooding induced by the project. Likewise, the Pennsylvania Infrastructure Investment Authority (PENNVEST) has consistently denied Lock Haven's repeated requests for a $1.5 million loan to relocate major sewer trunk lines along the riverbank. (See letter dated December 15, 1989, from Paul K. Marchetti, Executive Director, PENNVEST, to City of Lock Haven.)

In May, 1988, the City Council of Lock Haven agreed to limit the city's overall commitment to the project to not more than $1.5 million, which limit was confirmed at its meeting of February 5, 1990. (See, Lock Haven Council will pursue flood plan funds, Lock Haven Express, Feb. 6, 1990, at 1.) The Mayor was reported to have stated that "city residents could not afford to pay more for the project through higher taxes and the city would stick to its $1.5 million funding cap." (Id.) The current real estate tax rate is 9 mills; the $1.5 million commitment plus an additional $3.3 million from the city would require the rate to be raised by approximately 8 mills, or nearly doubled. Lock Haven Asked to 'Dig Deep' to Fund Hard-Fought Dike System, Williamsport Sun-Gazette, March 22, 1990, at 39.

The city has now requested donations through newspaper advertisements and has sought pledges of support from owners of tax-exempt properties to raise the $3.3 million necessary to continue the project. Robert Yowell, Executive Director of the Authority, has acknowledged, however, that "the amount people pledge to donate would not cut the amount their taxes would increase; the donation is over and above the tax increase that would be necessary to pay for the project." (See, City scraps deadline for flood project, Lock Haven Express, March 27, 1990, at 1.)

Doubling of taxes of residents of Lock Haven would be a burden that most of us cannot and do not wish to carry. Even now the City is unable to maintain its existing infrastructure without substantial aid from the outside. (See Statement, April 12, 1989).

The city taxpayers, including members of this Association, will be exposed to further substantial economic burdens if the project goes forward. As the LCA points out, the "(t)otal project costs are presently estimated to be $86,400,000. . . . Such cost estimates are subject to adjustments based upon cost actually incurred and are not to be construed as the total financial responsibilities of the Government and the Local Sponsor." (Proposed LCA at unnumbered 11-12, ARTICLE VII, par. a.) The LCA states that Sec. 902 of P.L. 99-662 "establishes a maximum construction cost for the Project. . . the Section 902 cost limit is $98,640,000 . . . . This amount shall be adjusted to allow for appropriate increases for inflation and changes in the project cost as provided . . . ." (Id. at last page, ARTICLE XX.)

The City of Lock Haven cannot guarantee its performance in the event of future cost increases. The LCA states that "[i]f at any time during the period of construction the Government determines that additional funds will be needed from the Local Sponsor, the Government shall so notify the Local Sponsor, and the Local Sponsor, no later than 45 calendar days from receipt of such notice, shall make the necessary funds available . . . ." (Id. at 12, ARTICLE VII, par. b.4.) Further, the LCA provides that upon completion of the project, the Government will make a final accounting of the total project costs. "In the event the total contribution by the Local Sponsor is less than its minimum required share of total project costs, the Local Sponsor shall, no later than 90 calendar days [after receipt of notice] . . . make a cash payment to the Government of whatever sum is required to meet its minimum required share of total project costs." (Id. at 13, ARTICLE VII, par. e.)

In short, the $4.8 million commitment required of the City currently, which it cannot fulfill, is not a hard figure. Instead, we are being asked to commit ourselves to paying up to 12.5 percent of a project that will probably cost far more than its currently estimated $87 million. Given the extremely limited resources available to us, and the grave hardships to many that would result, our community cannot responsibly make such a commitment.

III. The Local Sponsor is Not Prepared to Meet its Other Commitments under the LCA, and the Resulting Economic Costs and Risks of the Project Justify its Non-Funding.

The Local Sponsor also agrees to "operate, maintain, repair, replace, and rehabilitate the completed Project . . . ." (LCA at 14, ARTICLE IX, par. a.) The commitment to a levee is long-term, and as the project ages, costs for maintenance will rise. The City of Lock Haven is over-extending the ability of its residents to pay for just the construction of the project. The costs for maintenance, including eventual rehabilitation, can be enormous, and the City of Lock Haven cannot carry such a burden.

The Lock Haven project involves the potential for hazardous substances on lands needed for project purposes. Still of concern is the toxic and hazardous contamination at the Drake Chemical Site on the South side of the proposed levee. See Environmental Assessment at EA-10. There is still no assurance either that existing owners will be willing to undertake the cleanup necessary or that the Authority will have the financial capability to undertake the unquantified and potentially enormous liabilities under CERCLA that may be involved. (See Supplemental Statement, August 1, 1989.) Also, the Authority has not demonstrated the capability to fund the necessary environmental audits.

Under the LCA, the Local Sponsor "shall provide .. information to zoning and other regulatory agencies for their guidance and leadership in preventing unwise future development in the floodplain and in adopting such regulations as may be necessary to prevent unwise future development and to ensure compatibility with protection levels provided by the Project." (LCA at 6, ARTICLE 11, par. 1.) The city, however, is working in the opposite direction. It is attempting to place a manufacturing facility in a complex at the lower end of the project which has been subjected to flooding in the past. The potential new owner is relying on the levee as a guarantee against flooding in the future. See, Lock Haven Council will pursue flood plan funds, Lock Haven Express, Feb. 6, 1990, at 1, 3; State Given an Ultimatum on Lock Haven Dike Project, Williamsport Sun-Gazette, Feb. 6, 1990, at 1. Such reliance should be discouraged. The disastrous failure of the old levee in Elba, Alabama, last month, "reflected just how vulnerable development in designated flood zones . . . considered safe because of man-made barriers, can be. The problem concerns not only those living in such places . . . but also government bodies, which can face enormous expenses for rebuilding and maintenance." (See, Applebome, Flood Control Project Becomes an Infrastructure Problem," N.Y. Times, March 25, 1990.)

Studies of the flood of 1972 (Hurricane Agnes) in Wilkes-Barre indicate that a primary reason for that city's costly material damages was the increased use of the floodplain brought on by a false sense of security due to the construction of levees there. Professional recommendations based on past disasters are that effective land-use management and zoning are integral parts of providing for economical flood protection, along with well-developed amd fully funded warning systems and evacuation plans. The City of Lock Haven has shown no commitment to such an approach.

The LCA also provides that the "Local Sponsor agrees to participate in and comply with applicable Federal flood plain management and flood insurance programs." (LCA at 6, ARTICLE 11, par. j.) The National Flood Insurance Program is intended to require Federal flood insurance for the most vulnerable property owners in return for local government policies regulating development in flood-prone areas. A 1987 study by the Federal Emergency Management Agency, however, found that only about 14 per cent of residences in flood-hazard zones have flood insurance. This danger is inherent in Lock Haven as the City burdens its residents with a doubling of taxes to build the structure. Thus, a local insurance agent states that "In five years when the project is built, we can drop our flood insurance" as an incentive to residents to gain their support for the levee. (Houser, Protection is worth it, The Express, March 13, 1990 at 4.)

The project is unnecessary to attract new industry to the area. There are two nearby essentially vacant industrial parks. The Piper Corporation is returning. It does not request that the levee be built and does not want the higher taxes that would be imposed to pay for the project.

The actions of Lock Haven officials and other proponents of the project to encourage the use of unsafe areas for development would indicate that they are mistakenly relying on the levees as a total solution to their flooding problem, instead of focusing on the need for appropriate regional planning. Realistically, there is no economically feasible means of providing full and assured flood protection for Lock Haven and similarly situated river communities. Instead, what is required is a regional approach encouraging appropriate flood plain management and zoning, flood proofing, an adequate flood warning system, and flood insurance. The Associaton urges this alternative approach.

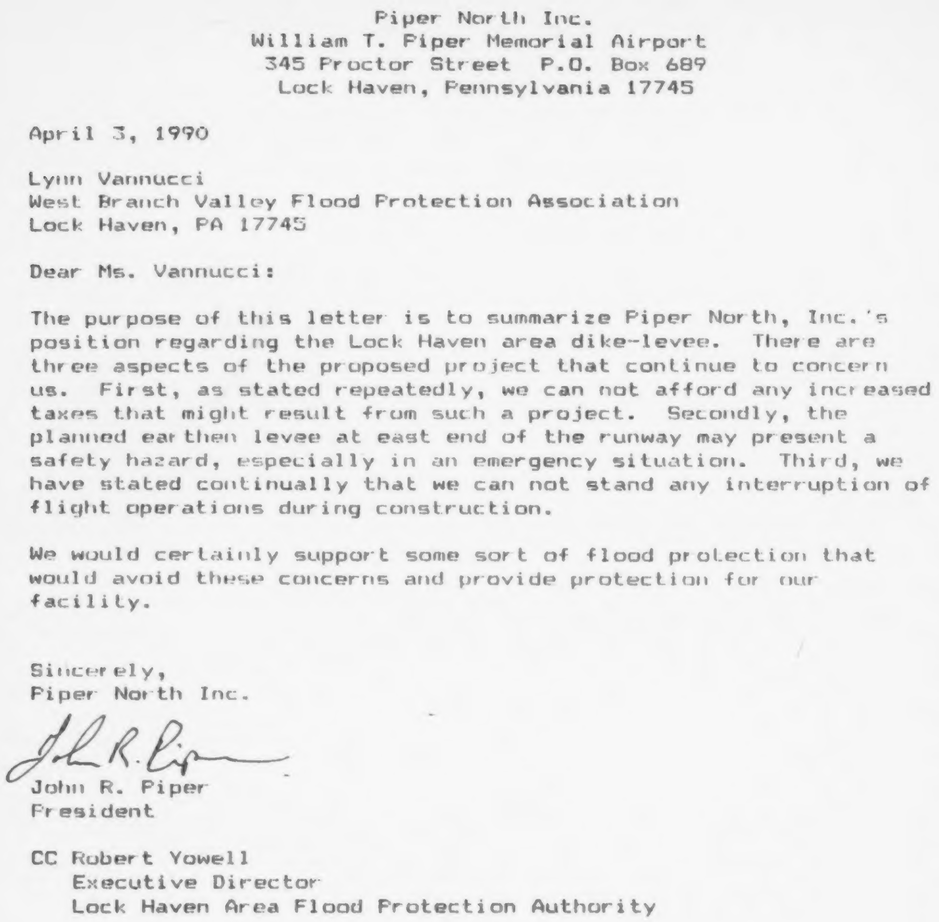
IV. Adverse Historical and Cultural Impacts.

The project would also have highly deleterious impacts on the City of Lock Haven, particularly its Historic District, and on the surrounding county, as pointed out in our earlier comments. To destroy the relationship between the City's Historic District and the river would be to destroy the basic aesthetic and cultural, as well as historic, qualities that give the City its essential identity. (See the Association's Supplemental Statement, August 1, 1989).

Conclusion

For the reasons stated above and in our earlier statements, the Association requests the no federal funds be appropriated.

LETTER FROM JOHN R. PIPER, PRESIDENT, PIPER NORTH, INC.



Piper North Inc.
William T. Piper Memorial Airport
345 Proctor Street P.O. Box 689
Lock Haven, Pennsylvania 17745

April 3, 1990

Lynn Vannucci
West Branch Valley Flood Protection Association
Lock Haven, PA 17745

Dear Ms. Vannucci:

The purpose of this letter is to summarize Piper North, Inc.'s position regarding the Lock Haven area dike-levee. There are three aspects of the proposed project that continue to concern us. First, as stated repeatedly, we can not afford any increased taxes that might result from such a project. Secondly, the planned earthen levee at east end of the runway may present a safety hazard, especially in an emergency situation. Third, we have stated continually that we can not stand any interruption of flight operations during construction.

We would certainly support some sort of flood protection that would avoid these concerns and provide protection for our facility.

Sincerely,
Piper North Inc.

John R. Piper

John R. Piper
President

CC Robert Yowell
Executive Director
Lock Haven Area Flood Protection Authority

EXHIBITS

November 7, 1989

ME ______________

AGREEMENT
between the
DEPARTMENT OF ENVIRONMENTAL RESOURCES
of the
COMMONWEALTH OF PENNSYLVANIA
and the
LOCK HAVEN AREA FLOOD PROTECTION AUTHORITY

AGREEMENT made this ________ day of ________________, 1989, by and between the Office of Resources Management of the DEPARTMENT OF ENVIRONMENTAL RESOURCES of the Commonwealth of Pennsylvania, hereinafter called the "DEPARTMENT", and the LOCK HAVEN AREA FLOOD PROTECTION AUTHORITY formed by the City of Lock Haven and Woodward Township, located in Clinton County, Pennsylvania, hereinafter called the "SPONSOR".

WITNESSETH THAT:

WHEREAS, by virtue of the Act of August 7, 1936 (First Ex. Sess. P.L. 106, No. 46), as amended, known as the State Flood Control Act, and Act 275 of 1970 (P.L. 834), the DEPARTMENT is authorized to enter into contracts and other agreements with municipalities and authorities created under the Act of May 2, 1945 (P.L. 382), as amended, known as the Municipal Authorities Act of 1945, for cooperation and assistance in constructing and financing Federal Public Flood Control Works; and

WHEREAS, construction of the Lock Haven Local Flood Protection Project at Lock Haven, Pennsylvania (hereinafter referred to as the "PROJECT"), was authorized by Section 401(a) of the Water Resources Development Act of 1986, Public Law 99-662; and

WHEREAS, the total cost of construction of the PROJECT is currently estimated to be $86,400,000; and

WHEREAS, the Water Resources Development Act of 1986, Public Law 99-662, requires a local sponsor to cooperate in the implementation of the PROJECT and to provide cash contributions and other items of value equal to at least twenty-five percent (25%) of the total cost of the PROJECT; and

WHEREAS, on the 26 day of May, 1988, the City of Lock Haven and Woodward Township formed the Lock Haven Area Flood Protection Authority for the purpose of accomplishing the duties of the local sponsor; and

WHEREAS, the SPONSOR has expressed its intent to enter into a legally binding Local Cooperation Agreement with the Federal Government; and

WHEREAS, the DEPARTMENT, on the ________ day of ________________, 1989, established Flood Control District No. 63 along the West Branch of the Susquehanna River and Bald Eagle Creek in the City of Lock Haven and contiguous municipalities in Clinton County, Pennsylvania, in accordance with the provisions of the aforesaid State Flood Control Act, to include all of the lands necessary to construct, operate and maintain the PROJECT, as well as all lands required to mitigate the adverse effects of the PROJECT on social, cultural and natural resources in, or in the vicinity of, the PROJECT area; and

WHEREAS, by virtue of the Capital Budget Act 113 of 1988 (P.L. 851) approved the 21 day, of October, 1988, the Legislature of the Commonwealth of Pennsylvania has appropriated ________________ to the DEPARTMENT to cover a portion of the non-Federal share of the cost of the PROJECT, and

WHEREAS, construction of the Lock Haven Local Flood Protection Project is considered to be in the best interests of the SPONSOR and the Commonwealth of Pennsylvania.

NOW, THEREFORE, the parties hereto intending to be legally bound agree as follows:

ARTICLE I

The SPONSOR shall enter into a Local Cooperation Agreement, hereinafter called the "LCA", with the Federal Government following execution of this AGREEMENT. The DEPARTMENT reserves the right to participate in the negotiations of the terms of the LCA and to request modifications thereto which are in the DEPARTMENT's best interests.

ARTICLE II

"PROJECT" as used in this AGREEMENT shall mean construction of approximately 36,600 feet of earth levee and 1,000 feet of concrete floodwall, with associated closure and drainage structures, recreation facilities, and non-structural measures in Woodward and Allison Townships as described in the Phase II General Design Memorandum, dated May 1987 and illustrated on the plan for Flood Control District No. 63.

The Plan for Flood Control District No. 63, approved by the Deputy Secretary for Resources Management of the DEPARTMENT is attached hereto, and is hereby made a part of this AGREEMENT.

ARTICLE III

The SPONSOR shall obtain from the Public Utility Commission, the Department of Environmental Resources, the State Department of Transportation and any other appropriate federal, state or local governmental agencies, all permits necessary for the construction, operation and maintenance of the PROJECT.

ARTICLE IV

The SPONSOR shall undertake and complete all negotiations, necessary transactions and proceedings in acquiring the necessary rights, franchises, licenses, easements or titles of land, by negotiation and amicable agreement, by eminent domain proceedings or by other necessary actions as required in the construction of the PROJECT. All negotiations, proceedings, or necessary actions are to be carried out in accordance with the provisions of the LCA.

ARTICLE V

All lands, easements and rights-of-way acquired for use in the construction, operation and maintenance of the PROJECT shall be acquired and held in the name of the SPONSOR. It is understood and agreed by the parties hereto that the use, occupation and employment of those lands shall be limited to the use of the same by the SPONSOR for the following purposes:

(A) The construction, operation and maintenance of the PROJECT;

(B) The construction and maintenance of streets, highways and parks;

(C) The construction of any landscape or beautification works;

(D) Other legal municipal improvements

Provided, however, that the said rights contained in Subsections B, C and D of this Article shall only apply upon application to the DEPARTMENT and determination by the DEPARTMENT that said rights will not interfere with or in any manner decrease the effectiveness of the PROJECT. Until the PROJECT is discontinued or abandoned, the SPONSOR agrees not to sell, lease or otherwise dispose of, or permit the use thereof by a third party, any lands acquired by the SPONSOR for the PROJECT, without the approval in writing by the DEPARTMENT of such disposition or use

ARTICLE VI

The SPONSOR shall undertake and complete all negotiations, necessary transactions and proceedings for the relocation, abandonment or modification of highways, including all bridges, approaches, ramps, and streets; railroads; storm or sanitary sewer lines; water lines; gas lines; power lines; telephone lines; other utilities; and the Lock Haven airport, made necessary by interference with the features of the PROJECT. All negotiations, necessary transactions and proceedings are to be carried out in accordance with the provisions of the LCA.

ARTICLE VII

The DEPARTMENT shall not be responsible for nor bear any of the costs of operation, repairs, or maintenance of the PROJECT.

ARTICLE VIII

The DEPARTMENT shall not be responsible for nor bear any of the costs of repairs, modification or relocation of existing roads, streets and highways within or without the limits of the PROJECT which are not a part of, or made necessary by interference with, the features of the PROJECT shown on the official plans. The "Official Plans" are hereby defined as those plans used by the U.S. Army Corps of Engineers for the solicitation of bids and contracts for construction of the PROJECT.

ARTICLE IX

The DEPARTMENT shall not be responsible for nor pay any costs and damages involved in the repairs, modification or relocation of any utilities, or storm or sanitary sewer lines, which are not part of, or made necessary by interference with, the features of the PROJECT shown on the Official Plans.

ARTICLE X

The DEPARTMENT shall not be responsible for nor bear any of the costs involved in the construction of recreational facilities other than the separable cost for recreation features as defined in the LCA. The separable cost for recreation features will be shared as set forth in Article XIII hereof. The costs of recreation betterments and operation and maintenance costs shall be borne entirely by the SPONSOR.

ARTICLE XI

The DEPARTMENT assumes no responsibility for any damages of any nature whatsoever arising from the construction of the PROJECT and the SPONSOR shall save and hold harmless the DEPARTMENT from any and all damages of any nature whatsoever due to the construction, operation or maintenance of the PROJECT

ARTICLE XII

In consideration of the premises herein and subject to the limitation set forth hereinafter, the DEPARTMENT agrees to provide to the SPONSOR, from the Capital Facilities Fund of the Commonwealth of Pennsylvania, in the manner hereinafter set forth, funds sufficient to cover __________ percent (____%) of the non-Federal share of the PROJECT cost, as approved by the Federal Government and as set forth in Article XIII.

ARTICLE XIII

It is understood by the parties hereto that the DEPARTMENT's share of the cost of the PROJECT consists of ______ percent (______%) of the non-Federal share of the PROJECT cost as approved by the Federal Government and as set forth in the LCA.

For purposes of this AGREEMENT, the cash value of credits as defined in the LCA shall be counted as part of the SPONSOR's share of the non-Federal costs, except for any credit for the Economic Impact Analysis which shall be split ______ - ______ with the DEPARTMENT.

ARTICLE XIV

The SPONSOR shall establish an interest-bearing escrow account at a financial institution insured by the FDIC or the FSLIC. All funds contributed to the PROJECT by the DEPARTMENT shall be deposited into the escrow account. The SPONSOR shall maintain a detailed accounting of all deposits, accrued interest and disbursements. Accrued interest shall be considered applicable to each party's share in the same proportion as each party's deposits.

Except for direct payments to the Federal Government as set forth in ARTICLE XV hereof, no other payments shall be made from the escrow account without prior approval of the

DEPARTMENT. The SPONSOR shall furnish to the DEPARTMENT a copy of a monthly statement of transactions as well as the current balance.

ARTICLE XV

The SPONSOR shall make cash payments to the Federal Government in the amounts and in the manner set forth in the LCA as part of the PROJECT cost, which costs will be shared as set forth in Article XIII hereof. Accrued interest in the escrow account set up for this purpose shall be considered applicable to each party's share in the same proportion as each party's deposits.

ARTICLE XVI

The SPONSOR shall make quarterly estimates of the non-Federal share of the cost of the PROJECT and of the cash flow requirements necessary to fulfill its obligations for that quarter under the terms of the LCA. The SPONSOR shall then submit invoices to the DEPARTMENT, along with their quarterly estimates and substantiating documents. Each quarterly invoice shall not exceed ______ percent (____%) of the estimated non-Federal share of the cost of the PROJECT including a portion of the credits set forth in Exhibit A of the LCA.

If, during any quarter, it becomes apparent that actual or anticipated expenditures for that quarter have exceeded or will exceed estimates, the SPONSOR may submit interim invoices to the DEPARTMENT equal to ______ percent (______%) of the deficit. If actual expenditures for any quarter are less than the estimates, the invoice for the succeeding quarter shall be adjusted accordingly

ARTICLE XVII

Upon completion of the construction of the Lock Haven Local Flood Protection Project and the final payment of all legal debts resulting therefrom, any funds remaining in the escrow account shall be distributed to each party such that each party hereto will have contributed (Department) ______ percent (____%) and (Sponsor) ______ percent (____%) of the non-Federal share of the cost of the PROJECT. Should there be a deficit in the escrow account, each party hereto shall make a final payment, such that each party will have contributed (Department) ______ percent (____%) and (Sponsor) ______ percent (___%) of the non-Federal share of the cost of the PROJECT.

ARTICLE XVIII

This AGREEMENT shall become effective upon its execution and upon execution of the Local Cooperation Agreement by the SPONSOR and the Federal Government. Unless extended in writing by the SPONSOR and the DEPARTMENT, the monetary commitments of the DEPARTMENT contained in this AGREEMENT shall cease once construction of the PROJECT is complete and the final payment is made by the DEPARTMENT to the SPONSOR to liquidate all DEPARTMENT indebtedness under this AGREEMENT.

ARTICLE XIX

The SPONSOR agrees to comply with the terms and conditions of the Nondiscrimination Clause attached hereto as Exhibit "B".

ARTICLE XX

The SPONSOR agrees to comply with the terms and conditions of the Contractor Integrity Provisions for Commonwealth Contracts attached hereto as Exhibit "C".

ARTICLE XXI

Notwithstanding any provision of this AGREEMENT to the contrary, the DEPARTMENT's total liability under this AGREEMENT shall not exceed the limitation of Article 3, Section 24 of the Pennsylvania Constitution. The DEPARTMENT shall inform the SPONSOR of the total amount of money that is available to cover DEPARTMENT obligations under this AGREEMENT at the time the DEPARTMENT executes this AGREEMENT and for each DEPARTMENT fiscal period thereafter at the start of that fiscal period or on such other occasion whenever specified by the SPONSOR.

The DEPARTMENT states that the maximum amount of funds currently available to cover DEPARTMENT obligations hereunder is __________. The DEPARTMENT realizes that the total cost of the PROJECT may be such that the DEPARTMENT's portion of the non-Federal share of the cost of the PROJECT, as calculated herein, may exceed __________. The DEPARTMENT shall include in its budget request for each fiscal period appropriations sufficient to cover the DEPARTMENT's obligations under this AGREEMENT, and will use all reasonable and lawful means to secure the appropriations and availability of money sufficient to make the payments necesssary to fulfill its obligations hereunder.

The DEPARTMENT reasonably believes that monies in amounts sufficient to discharge its obligations can and will lawfully be appropriated and made available for this purpose. In the event the State Legislature does not provide under any Capital Budget Act monies in sufficient amounts to discharge the DEPARTMENT's obligations under this AGREEMENT, the DEPARTMENT shall use its best efforts to satisfy any requirements for payments under this AGREEMENT from any sources of funds available to the DEPARTMENT other than those provided for the PROJECT by the State legislature under any Capital Budget Act. The SPONSOR reserves, and the DEPARTMENT acknowledges, the SPONSOR's right to enforce payment hereunder by means in accordance with applicable law.

ARTICLE XXII

The DEPARTMENT shall have the right to terminate or suspend future performance under this AGREEMENT if the Local Cooperation AGREEMENT is either terminated or suspended pursuant to the Termination or Suspension Article of the Local Cooperation Agreement. Such termination or suspension shall not relieve the DEPARTMENT of its responsibility to make payments to the SPONSOR under this AGREEMENT for obligations incurred prior to the date of termination or suspension.

IN WITNESS WHEREOF, the parties hereto, intending to be legally bound hereby, have hereunto set their hands and seals the day and year above written.

WITNESS:

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL
RESOURCES

____

BY: ______________________________
James R. Grace
Deputy Secretary
for Resources Management

LOCK HAVEN AREA FLOOD PROTECTION
AUTHORITY

______________________________(SEAL)
ATTEST: Secretary

BY: ______________________________

____
Chairman

Approved as to legality and form:

____
Office of Attorney General

____
Chief/Assistant Counsel
Department of Environmental Resources

APPROVED:

____
Secretary, Office of the Budget

LETTER FROM BORY STEINBERG, CHIEF, POLICY, REVIEW AND INITIATIVES DIVISION, CORPS OF ENGINEERS

27 JUN 1989

REPLY TO
ATTENTION OF:

Policy, Review and Initiatives
Division

Mr. Robert C. Yowell
Executive Director
Lock Haven Area Flood Protection Authority
20 East Church Street
Lock Haven, Pennsylvania 17745

Dear Mr. Yowell:

Thank you for your letter of April 4, 1989. Like you, I felt the March 29th meeting in Baltimore advanced us significantly towards constructive issue resolution.

At the end of the meeting we agreed to provide you with a formal statement of the Government's views on the issues we discussed and some suggestions as to means by which you could address any remaining concerns. I have organized my responses to follow the general order in which we took up the issues at our March 29th meeting.

Legal Sufficiency and Financial Capability. As we explained at our March 29th meeting, our legal counsel raised two concerns about the legal sufficiency of the Lock Haven Area Flood Protection Authority. The first concern centers on the legal relationships between the Government and the political entities which give effect to the Authority as local sponsor. The second concern relates to the adequacy of the subagreements which provide the Authority with funding it needs to act as local sponsor.

The first concern is based on the fact that the Authority, as the project local sponsor, is completely dependent upon the Commonwealth of Pennsylvania, City of Lock Haven, and Woodward Township to perform the Authority's responsibilities and obligations under the LCA. We realize that under the agreement establishing the Authority, the City and the Township reached an accord on how the two parties would share in assisting the Authority meet its responsibilities for providing the items of local cooperation. However, we are concerned that in the unlikely event that the Authority is unable to perform on its obligations, the Government would not be able to protect the Government's interests in the project.

After discussing the issue, we have determined that our concerns could be satisfied if the City of Lock Haven and Woodward Township agreed to cosign the LCA along with the Authority. Under this approach, we would still consider the Authority to be the project's local sponsor and would look to the Authority to provide the necessary items of local cooperation. The City of Lock Haven and Woodward Township would sign the LCA as guarantors. The LCA has been modified to reflect this relationship.

If the Authority, City and Township agree to this arrangement, our first concern will be satisfied. No further legal opinion will be required from the Commonwealth, but the requirement for a Certificate of Authority executed by the Legal Officer of the Authority will remain.

Additionally, you should realize that the LCA as currently drafted requires the Local Sponsor to fulfill its obligations completely. The LCA makes no provision for limiting the Local Sponsor's contribution to a set dollar amount, and does not guarantee that project construction will be completed on a specific date. The LCA does provide the Government's current best estimates, and although we will strive to complete the project on time and on budget, you should realize that the dollar amounts contained in the LCA are only estimates and are subject to adjustment based upon costs actually incurred and are not to be construed as the total financial responsibility of either the Government or the Local Sponsor.

Our review of the subagreements has identified four troublesome areas. First, it appears that the Commonwealth and local contributions to the Authority have been made subject to the availability of appropriations. Second, Pennsylvania Department of Environmental Resources (PENNDER) has placed a cap on its financial contributions to the Authority. Third, PENNDER has established time deadlines on its contribution. Finally, the City of Lock Haven also appears to have placed a cap on its contribution to the Authority.

These provisions, as currently drafted, raise the concern that the Authority will not be able to fulfill its cost sharing obligation should project costs increase or construction delays occur. In order to protect the Government's interest, the Authority needs to demonstrate that at least one of its funding sources will not be capped or otherwise restricted.

Additional Financial Questions. Next you asked that we answer several questions concerning Section 104 type credits allowed for in the Section 401(a) authorization for Lock Haven. These were questions you had not addressed to Mr. Doyle when you asked him to reconsider his denial of additional Section 104 type credits. Your first question dealt with the ability to apply credits across project purposes. Section 104 credits are viewed at the project level. Thus, the credits earned in performing structural flood control work can be applied against non-structural work.

You also asked about the procedures in applying credits against LERRD. Section 104 Credits are first applied against project cost sharing cash requirements, other than the minimum five percent required under Section 103(a)(1)(A). When credits exceed cash requirements, the balance remaining to be credited is applied against LERRD. When credit against LERRD is allowed, that means the sponsor's financial responsibility for an equivalent amount of LERRD has been discharged. Accordingly, since those LERRD's are still needed for project construction, the financial responsibility shifts to the Federal Government (however we still require that the local sponsor perform the acquisition).

Finally, you asked for clarification on why credits can not be granted for work which occurs after 1987. Provisions of Section 104 limit applying credits to work begun prior to enactment of P.L. 99-662 on November 17, 1987. The ASA(CW) used a "continuation" principal to allow credits in connection with a State Planning Grant (Woodward Township nonstructural) and Flood Protection Planning Board Costs to allow activities begun prior to November 17, 1987, to be carried through to the end of 1987. Neither credit would have been allowed in a pure Section 104 case because there was no associated and consequential non-Federal work performed.

Notwithstanding provisions of Section 104, there is provision for acknowledging some of the future costs of the Authority related to project construction. We can acknowledge costs which are necessary for the Authority to carry out its responsibilities in acquiring lands, easements, rights-of-way, and any disposal areas required during construction. However, in order for such costs to be credited during the final accounting, they must be reflected in the Government's estimated Total Project Costs prior to your incurring them, and subsequently approved by Government audit as reasonable.

Environmental Considerations. As we discussed at our March 29th meeting, the Lock Haven Project represents the first project, since enactment of cost sharing rules in the Water Resources Development Act of 1986, where we have recognized that the potential for hazardous substances may exist on lands that are needed for project purposes. The possibility that hazardous substances might be found on project lands raises serious concerns with respect to liability under several Federal Statutes, especially the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The Act establishes four classes of individuals who are required to bear liability for any response (i.e., cleanup) costs expended to remedy the contamination. Moreover, the Act established strict liability that is joint and several between these four classes of individuals for any cleanup costs. The concern raised for this project results from the fact that one of the four classes is the current owner of the property when hazardous substances are found.

The Authority is required to provide all lands necessary for the project. Based on this, we believe that the Authority may qualify as the "current owner" within the meaning of CERCLA for project lands it acquires.

Accordingly, we strongly suggest that the Authority discuss this potential liability with legal counsel knowledgeable in this area of the law. At your request, our lawyers have reviewed the Title Insurance Policy Rider you sent us, and have concluded that the coverage does not afford the Authority any protection from CERCLA liability. You also requested examples of clauses which illustrate the type of measures the Authority might incorporate in its real estate purchase agreements to protect itself from liability in the event it purchases lands which later prove to contain hazardous materials. At Enclosure 1 we have attached two such clauses. While these clauses may be helpful, the Authority should consult with qualified counsel to assist it with this issue.

Additionally, under Section 103(j)(1) of the WRDA of 1986, the local sponsor is required to hold and save the U.S. Government free from all damages except those damages resulting from the fault or negligence of the U.S. Government or its contractors. Article IX of the enclosed LCA establishes the general principle of holding the Government free of claims of liability, which would include claims resulting from the existence of hazardous and toxic wastes in any project lands.

Article II.n. of the LCA assigns responsibility for environmental audits of project lands to the Authority when such an audit is determined necessary by either party. This assignment of responsibility is consistent with the Authority's obligation to provide the real estate interests necessary to construct and operate the project. The assignment of responsibility in Article II.o. for any cleanup and response costs that may arise from the discovery of hazardous and toxic wastes is also consistent with the Authority's requirement to provide the necessary real estate interests for the project. The Baltimore District will work with you to aid your selection of a reputable environmental auditor. All reasonable costs associated with this environmental audit will qualify as allowable costs related to the acquisition of lands, easements, relocations, and rights-of-way.

You asked us to address your concern about accepting liability for hazardous materials when you acquire land through the use of eminent domain power and procedures. In our opinion, the use of eminent domain to acquire land necessary for the project will not remove liability under CERCLA. Therefore, before beginning condemnation proceedings you should assure yourself that the lands are free of hazardous substances.

Should your environmental audits discover hazardous substances, you should not proceed with acquisition of the property. Rather, you should immediately notify the Baltimore District. If possible, we will attempt to facilitate cleanup by the existing owner at that time.

Recreation. We understand your disappointment at the March 29th meeting in learning that the cost sharing for recreation facilities in the Phase II GDM was incorrect. Mitigation of lost recreational opportunities was endorsed by the Board of Engineers for Rivers and Harbors and the Chief of Engineers in 1981 when they recommended this project for Congressional authorization. However, their recommendations acknowledged that new cost sharing arrangements were still being developed by the President with the Congress. In recognition of that fact, the Chief of Engineers recommended that the project be authorized "subject to cost sharing and financing arrangements which are satisfactory to the President and Congress."

Unfortunately, the Phase II GDM reflects a concept of mitigation cost sharing inconsistent with Corps policy. Under this policy, mitigation measures are cost shared in accordance with the cost sharing that would apply if such measures were separately authorized as a project feature.

With respect to the recreation proposed at Lock Haven, we have determined the municipal swim beach facility and the boat ramp may be treated as either separable recreation facilities (cost shared 50/50), or as relocations (100 percent non-Federal responsibility). The J Street Seating Facilities will be considered a separable recreation feature and will be cost shared 50/50. A listing of the recreational facilities and the cost sharing for them is listed as Attachment B to the enclosed LCA. Attachment B assumes the swim beach and boat ramp as relocations based on your unique funding and cost sharing considerations. As we noted at the March 29th meeting, these two facilities can also be treated as recreation facilities and cost shared on a 50/50 basis.

Cultural Resources. The Corps of Engineers will be forwarding a request to the Department of Interior for approval of a waiver of the one percent limit applied to cultural resources mitigation. The waiver request reflects that the costs of cultural resources mitigation will be 100 percent Federal, non-reimbursable costs, up to one percent of the total Federal Appropriation required for construction of the Lock Haven Project. Costs exceeding the one percent will be allocated among authorized project purposes in accordance with applicable cost allocation procedures and shall be subject to cost sharing to the same extent as such other project costs are shared. Treatment of Cultural Resources Mitigation in the LCA can be found in Articles I.p. and II.h.

Non-Structural Measures in Woodward Township. We agree that application of the non-Structural cost sharing policy is appropriate to address the induced flooding problems caused by the construction of the Lock Haven levee and flood wall. Moreover, the purchase of flowage easements may be used to accomplish non-structural measures. Fee simple acquisition will only be required where public access or recreation is proposed. This position will be recommended to the Office of Management and Budget when we forward the enclosed LCA for their review and concurrence.

We have included provisions in the LCA (Article VI, paragraph d.) to facilitate timely reimbursement of the Government's share of expenses you incur in accomplishing the Non-Structural Measures. The LCA provides for monthly payments to the Authority based upon monthly billings of completed work. This mechanism balances considerations of the Authority's responsibilities to provide LERRD required for non-structural measures; the 25 percent cost sharing assigned to the Authority by P.L. 99-662; the Authority's fiscal requirements; and the Government's fiscal policies. Your proposal to have the Government advance funds quarterly into an escrow account based on your forecast of anticipated expenditures is not acceptable due to broader Fiscal Policies established by OMB and Department of Treasury. OMB has supported our use of the monthly reimbursement mechanism in LCA's for other projects which involved non-structural measures.

Construction Inspector. You have the prerogative to retain a construction inspector to represent you. However, your costs for retaining such an inspector will not be made part of the total project costs nor cost shared. We encourage you to work with the Baltimore District Engineer to have your concerns reflected in the functions performed by the Government's construction inspection personnel instead of retaining your own construction inspector.

Local Sponsor Audit Costs. It is also your prerogative to audit District financial records for the Lock Haven Project to assure that your funds have been appropriately and reasonably expended for the project. Such audit costs are allowable as part of Total Project Costs and as such can be cost shared. This provision is reflected in Article X of the LCA.

Advanced Acquisition of LERRD. Another concern which you raised was whether the Federal Government and the Authority could share the risk associated with acquiring lands in advance of a signed LCA and formal notification from the Baltimore District to proceed in acquiring specified LERRD. Specifically, you asked us to share the risk of your advanced acquisition of LERRD in circumstances where Congress does appropriate funds, we enter into an LCA, but the final specification of LERRD is different than preliminary Corps delineations which you would have used to begin acquiring LERRD.

We have determined that it would be inappropriate to share the risk as you propose. Under current policy, credit for any LERRD you acquire in excess of that official notification will not be included in total project costs nor credited toward your share of total project costs. This policy serves to limit total project costs to only those items and acreage necessary for Corps projects. To do otherwise would exceed the authority granted the Corps by Congress. That policy and limitation on our authority is carefully defined in Article IV.A.4. of the enclosed LCA.

Recent Development. Recent clarification of cost sharing policy with respect to relocations has led to the determination that construction of the Sanitary Pumping Plant to lift sanitary effluent or sanitary bypass flows over the line of protection during times of high stages on Bald Eagle Creek and the associated relocation of a storm water sewer line must be handled as a relocation. As such, they become a non-Federal responsibility. Cost sharing of the construction and the relocation is not allowable; however, credit for the costs of construction of the sanitary pumping plant and relocation of storm sewer is allowable as part of LERRD.

Cost Sharing Display. Finally, Attachment A to the enclosed LCA will require revision to reflect our assessment of the above views, their implications on cost sharing, and the distribution of Section 104 Credits. We will forward that to you as soon as a revised Attachment A is developed. As you noted in your letter of April 4, 1989, I look forward to meeting with you further to discuss the above issues and the Government's views and policies applied to those issues.

Sincerely,

Bory Steinberg

Bory Steinberg
Chief, Policy, Review and
Initiatives Division
Directorate of Civil Works

LETTER FROM PAUL K. MARCHETTI, EXECUTIVE DIRECTOR, PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

Governor Robert P. Casey,
Chairman

Paul K. Marchetti,
Executive Director

December 15, 1989

Lock Haven, City of
20 East Church Street
Lock Haven, PA 17745

RE: Lock Haven, City of
$1,500,000.00 Financial Assistance Application
Pennsylvania Infrastructure Investment Authority

Dear Sirs:

After evaluating your recent application for PENNVEST financial assistance and considering the demands placed on our limited financial resources, I reluctantly concluded that we did not have sufficient funds on hand to provide the assistance you requested from the December 6, 1989 Board Meeting. However, I shall keep your application active and eligible for future consideration for PENNVEST financial assistance unless we hear otherwise from you.

We plan to have financial consultants available in the future to assist us in arranging alternative financial assistance. This assistance could involve funding from PENNVEST, perhaps blended with other sources, depending upon the availability of PENNVEST funds and the terms of other assistance. As soon as consultants are available and we can commence with formulating alternative financing arrangements, I will contact you to set up an initial consultation. In the meantime, should any additional information become available that could significantly affect your application, please contact our office in order to facilitate appropriate action.

I look forward to working with you to help make your proposed project financially possible.

Sincerely,

Paul K. Marchetti
Executive Director

LETTER FROM ARTHUR A. DAVIS, SECRETARY, COMMONWEALTH OF PENNSYLVANIA

January 31, 1990

Honorable Diann H. Stuempfle
Mayor of Lock Haven
20 East Church Street
Lock Haven, PA 17745-2599

Dear Mayor Stuempfle:

This is in response to your request for the Commonwealth to fund $16.6 million towards the Lock Haven Local Flood Protection Project.

After consideration of your request for increased funding, it has been determined that the Commonwealth will continue the current policy of contributing 50 percent of the non-Federal share of the total project costs. The Commonwealth's commitment to pay this 50 percent represents an increase in the Commonwealth share on federally funded projects. Prior to the passage of the Federal Water Resources Development Act of 1986, our policy was to pay 50 percent of only the costs incurred by sponsoring municipalities in carrying out their land acquisition and relocation responsibilities.

We, therefore, wish to reaffirm the Commonwealth's position that was transmitted to Lock Haven as early as February 1986 that we would pay 50 percent of the non-Federal share of the project. Based on the U.S. Army Corps of Engineers' latest cost estimate, this would amount to $11.1 million. We would appreciate your written position on continuing this project in accordance with the terms of this letter.

If you have any further questions, please contact James L. McNaney, Director, Bureau of Water Projects, at 717-783-7917.

Sincerely,

Arthur A. Davis
Secretary

[From the Express, Lock Haven, PA, Tuesday, Mar. 13, 1990]

LETTERS TO THE EDITOR: PROTECTION IS WORTH IT

To the editor:

It is time for the people of this city to stop, listen and understand a few facts.

In 1989, over $265,000 was paid in flood insurance for 779 policies in the city. This represents a 40 percent increase in premiums in just three short years. It has been a 250 percent increase during the last 12 years and a 38 percent drop in policies at the same time.

The city is currently at nine mills of tax on real estate. Each mill represents about $56,000 in revenue yearly.

Bonding cost is about $85,000 per year for each million dollars borrowed at market rate.

So let's do some arithmetic. A $4.5 million bond issue for 25 years would cost $382,500. This would require a 6.8 mill tax increase for 25 years plus another mill for maintenance.

For one thing, we know that the bond cost would not go up. We also know it would end after 25 years. We also know that flood insurance premiums will not end at 25 years and God only knows how much per year it will cost the city property owners in 25 years. It most certainly will be more than the annual bonding cost of $4.5 million ($382,500) in a few short years and only 35 percent of the city flood plain parcels would have protection.

Wouldn't you rather pay for flood protection with a fixed cost lasting only 25 years? In five years when the project is built, we can drop our flood insurance.

Another thing you should know: the city is one of 52 third class cities in Pennsylvania. In 1988, we had the lowest tax rate. Even when adjusted for differing assessment ratios, we are third from the bottom having very near the lowest tax rate. In fact, our tax rate is less than half of the average rate among the 52 cities.

Lastly, there are 2,395 taxable parcels in the city. Together, they pay nine mills or $515,187 a year to the city; that's all. That's an average payment of $215 per year. The average homeowner only pays $125 per year.

Even if we double taxes for flood protection, wouldn't it be worth $125 to $215 per year for 25 years?

DON HOUSER
Lock Haven

[From the Williamsport Sun-Gazette, Tuesday, Mar. 6, 1990]

DIKE PROJECT DEAD IN THE WATER?

LOCK HAVEN – The proposed $86.4 million flood protection system here appears dead in the water, with the state unwilling to add more funding and the city unwilling to take up the slack.

The Casey Administration has informed city government it will not provide the additional $2.8 million needed to fund a levee system along the Susquehanna River and Bald Eagle Creek.

Mayor Diann H. Stuempfle told City Council last night that she received a telephone call Friday from Thomas F. Lamb, the governor's secretary for legislative affairs, who told her of the state's "no more money" verdict.

The state's decision, plus the lack of any other funding sources, means 18 years of dike planning since the Agnes Flood of 1972, and about $7 million in city, state and federal funds spent on the project to date, will go down the drain, Stuempfle said.

The city has accumulated about $8.3 million in credits, cash and property equity – including $1.5 million in tax revenue that would be raised from a two-mill tax hike – toward the flood control project.

To raise the additional $2.8 million locally, City Council estimates it would have to nearly double Lock Haven's current nine-mill property tax.

That is an increase council members have said city taxpayers cannot afford.

The Clinton County commissioners, while they support the project, have said the county will not provide any money toward flood control.

As a result, the only chance the dike project has "rests with the citizens and businesses of Lock Haven," Stuempfle said in urging them to express their views to Casey to pressure the governor to provide more funding.

Overall, the federal government has offered to contribute 75 percent, or $64.8 million, toward the project. That support recently was reaffirmed by President George Bush who, in his proposed fiscal 1991 budget, has asked Congress to spend $18.6 million on the project next year, on top of the $7.6 million approved last year.

But Casey has affirmed in the past that state government would set an unwanted precedent for funding future water projects if it were to provide more than the $11.1 million from the state Department of Environmental Resources, or 50 percent of the about $22.1 million non-federal share.

A frustrated Stuempfle described the state's decision as a "penny saved and a pound foolish," and warned that the city and state "will pay later, when millions of dollars in damages are caused by the next flood."

Stuempfle said she cannot understand how state government can agree to invest more than $10 million to bring Piper North Corp. to Lock Haven and not spend more money on flood control to protect that and other economic development investments it has made in the city.

In a prepared statement to the public last night, Stuempfle said council has fought hard for the project and U.S. Sens. H. John Heinz and Arlen Specter and Congressman William Clinger are to be commended for their support of the dike system proposal.

"It is very clear that the only chance for the project lies with you, the people and businesses of the City of Lock Haven," she said.

Stuempfle termed the situation "very grim" and said she expects council members will attend the Lock Haven Area Flood Protection Authority meeting March 21 to discuss the situation and outline a timetable and procedure for "terminating our pursuit of this project."

[From the Williamsport Sun-Gazette, Thursday, Mar. 22, 1990]

LOCK HAVEN ASKED TO DIG DEEP TO FUND HARD-FOUGHT DIKE SYSTEM

LOCK HAVEN – City taxpayers, industries, tax-exempt city property owners and organizations will be asked to dig into their pockets to help offset a funding shortfall in the proposed $86.4 million flood control system here.

At least that's the intent of a majority of City Council members, who last night reacted favorably to encouragement from the Lock Haven Area Flood Protection Authority to forge ahead with the dike project – even if it ultimately means nearly doubling the city's nine-mill real estate tax to fund an estimated $4.8 million deficit.

Conceding that more state money, other than the $11.1 million already committed, no longer is an alternative, the authority directed its executive director, Robert C. Yowell, to begin soliciting annual donations from about 55 owners of an estimated 293 tax-exempt properties in the city, plus area industries and "whoever else will contribute."

That measure was okayed only after the authority received assurances from Mayor Diann H. Stuempfle and City Councilmen Scott A. Smith, June L. Houser, Joseph Nevins, George Shade and Alfred E. Hoberman that they are willing to move ahead with flood control along the Susquehanna River and Bald Eagle Creek, knowing a sizeable tax hike may be necessary.

To that end, council members informally agreed to meet Monday night to approve a previously suspended, $10,000 appraisal of properties in the dike right-of-way. They further agreed to discount the April 9 deadline they had set for a "final" decision on the project after noting that a "do or die" verdict on flood control must come by early May, because that's when Congress will begin debating an $18.6 million federal appropriation for the levee.

"We can't give up. We're just too close," cried authority chairman Dale Cooper, echoing the sentiments of his fellow board members.

"We have to give it everything we've got so that if it all falls through, we can look back and say we tried everything," remarked Councilman Smith.

Yowell said he has approached some area industries, including International Paper Co., and most have expressed a willingness to consider a contribution. There are 293 tax-exempt properties in the city that have a tax assessed value of $11 million, or 16 percent of the city's $67 million worth of taxable property.

Yowell will first survey prospective donors, then ask them to sign a contract pledging yearly contributions toward debt payments on a bond issue floated by the city. Those contracts, he said, must be in place by the end of April to satisfy Congress.

Recent estimates reveal an annual debt payment of $338,000 would be required for the city to borrow $4 million through a bond issue. So, with each mill of city real estate taxes generating about $57,000, it would take about six mills to meet that yearly payment. That does not include, however, a two-mill tax hike "limit" council previously agreed upon to raise $1.5 million toward its share.

But officials noted outside contributions and the value of property in the dike right-of-way can help to negate a large tax hike.

The move to continue with the dike project was supported last night by a number of people who spoke strongly in favor of flood protection, especially since the project has been two decades in the planning.

"We're at the finish line," said resident Warren Pete. "If it floods, we'll have to come up with five times that amount ($4.8 million) to pay for the damage."

The Rev. Norman P. Imgrund, pastor of St. Agnes Catholic Church and a strong advocate for local flood protection, said the church, which pays $2,200 annually to insure its Walnut Street property against floods, "is willing to help."

Army Col. Bernard E. Stalmann, district engineer for the Army Corps of Engineers, and Charles M. Hess, the corps' deputy district engineer, both told officials, "don't give up." They said if the needed money is raised, the corps is ready to execute the first construction contract for the dike.

[From the Williamsport Sun-Gazette, Tuesday, Mar. 27, 1990]

CITY SCRAPS DEADLINE FOR FLOOD PROJECT

LOCK HAVEN — The continuing saga of the pursuit of funding for the proposed flood protection project took another turn at a special meeting Monday night.

Members of the Lock Haven City Council voted to cancel the April 9 deadline they had set last month as the date to make a decision on whether to proceed with the project. Under the same vote, they also decided not to set another deadline to make a decision.

Robert Yowell, executive director of the Lock Haven Area Flood Protection Authority, told members of council that a decision could not be made April 9 because information was still being compiled and public support of the project was increasing.

He said the federal government's share of the funding would only be available through the end of May. If the money is not committed to the project by then, he said it could be appropriated by the government for another project.

Councilman June Houser said she was against setting another deadline because the flood authority was funded through June 30 of this year. She said they should continue their efforts until the authority's funding runs out at the end of June or until the federal government makes a decision to pull its funding.

"I think the federal government is going to put a deadline on us," Mrs. Houser said. "If we don't have our project signed, sealed and delivered in May, we will probably lose our money to another project that is ready to go."

Councilman Scott Smith said he agreed with the need to continue working on the project but that he didn't want to see the project "milked out until the middle of next year."

"A final decision will need to be made in early to middle May," said Mr. Yowell. "I don't think the project can stand without a decision by then."

In the meantime, a number of activities will be conducted so council will have as much information as possible when it comes time to make the decision, according to Mr. Yowell.

At Monday night's meeting, council authorized Charles W. Snyder Real Estate Inc. to begin appraisals on land owned by the city and lands that would be donated to the city for the project. Mr. Yowell said once that list is completed, the U.S. Army Corps of Engineers would review the list to decide if that land would be applied as a local credit. If the value of the land is approved as a local credit, it could cut the local share.

The project is at a standstill since the state has limited it's share of the funding for the $86.4 million project at $11.1 million. Combined with federal funding, credits and the city's $1.5 million contribution, the project is about $3.3 million short.

Mr. Yowell said there has been good response to recent advertisements the authority has been running in The Express, which ask for donations toward the project costs.

"I think we can be very encouraged by the response," he said.

The flood authority also mailed out surveys to tax-exempt properties (churches, school district buildings, county buildings, etc.) in the city which also ask for donations.

Mr. Yowell said that the amount people pledge to donate would not cut the amount their taxes would increase; the donation is over and above the tax increase that would be necessary to pay for the project.

Also at the meeting, council voted to designate Hopper, Soliday and Co. Inc. of Pittsburgh as the investment banker and Tive, Hetrick and Pierce as bond counsel for the project. According to Mr. Yowell, the two firms need to be hired now so if the project does go forward, financing could be done almost immediately. He said the city and county have worked with both firms in the past.

Local resident Benjamin Collins spoke against the proposed dike/levee and said there is no guarantee that the city will be safe behind the "wall of mud." He said he knew of three levees that failed with the latest one being a levee in Alabama, which caused extensive flooding recently.

"What a terrible hoax it is to play on people to let them think that they're safe," he said. "It's one thing for the water to come up slowly, get wet, and go down and it's another thing for a wall to give way and wash everything out."

Councilman June Houser said they have never guaranteed that the levee will hold but that an upriver dam would not be built anytime in the near future.

"The cost would be billions of dollars, not millions, and I don't think that we can afford, or anyone in this area could afford the taxes that would be assessed on us to build that dam," she said.

He spoke in favor of building a hydro-electric dam at Keating.

Councilman Al Hoberman said a dam built for flood control could not be used to create electricity.

"To have a flood control dam, you want it empty except in times of high flow . . . for a hydro-electric dam, you want the highest possible head to make the most electricity possible," Mr. Hoberman said.

ADDITIONAL PREPARED STATEMENT FOR THE RECORD

Senator DOMENICI. The subcommittee has received a statement from the National Rural Electric Cooperative Association which covers numerous projects of the Corps of Engineers and Bureau of Reclamations. That statement will be made part of the record at this point.

[The statement follows:]

STATEMENT OF NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

Mr. Chairman, my name is Morgan Dubrow, Chief Engineer of the National Rural Electric Cooperative Association (NRECA). NRECA is the national association of over 1000 rural cooperatives which supply central station electricity to over 26 million people in the rural areas of 46 states. NRECA thanks this Subcommittee for its leadership and the Congress for blocking the sale of transmission systems, and for insisting that power marketing administration (PMA) rates be based on capital cost and interest rates that prevailed when the projects were authorized.

NRECA supports the F.Y. 1991 budget request for the Corps of Engineers, $3.54 billion; Bureau of Reclamation, $1.04 billion; Department of Energy's PMAs, $555.0 million; and other DOE energy programs, including $683.5 million for nuclear projects. NRECA emphasizes the need for:

- $19.8 million for the Central Valley Project, California.
- $22.9 million for the Richard B. Russell Dam, Georgia-South Carolina.
- $47.0 million for Garrison Diversion Unit, North Dakota.
- $11.5 million for Harry S. Truman Dam and Reservoir, Missouri.
- $198.5 million for Central Arizona Project, Arizona.
- $98.8 million for the Central Utah Project, Utah.
- $13.4 million for the Animas-LaPlata Project, Colorado.
- $110.4 million for Columbia Basin, Chief Joseph, and Bonneville projects.
- $21.6 million for the North Loup Division, Missouri Basin Project, Nebraska.
- $4.5 million for the Groundwater Recharge Demonstration Program.
- $50.4 million for the Dolores Project.
- $23.9 million for Boulder Dam Project, Arizona-Nevada.
- $231.5 million for operation and maintenance for the Bureau of Reclamation.

At our 48th annual meeting in Orlando, Florida in February 1990, our members again unanimously passed resolutions supporting appropriations for water resource and hydroelectric projects throughout the United States.

Opposition to Sale of Power Marketing Administrations

NRECA strongly opposes the President's 1991 legislative proposal to sell the Alaska Power Administration, and any part of Bonneville, Western, Southwestern or Southeastern Power Marketing Administrations. Our 650 rural electric cooperatives purchase this power at cost. Legislative proposals for the use of straight-line amortization and current interest rates by the Bush Administration would increase average federal power rates by 57 percent in Western (WAPA), 40 percent in the Pacific Northwest (BPA), 75 percent in the Southwest (SWPA), 60 percent in the Southeast (SEPA), and 22 percent in Alaska (APA).

Construction for the Bureau of Reclamation

The Administration has recommended funding the Bureau's construction program of $609.4 million which will permit the timely completion of projects which are underway in the current fiscal year. Unfortunately, this does not include $55.5 million of additional funds needed for the Garrison Diversion Unit, the Mni Wiconi Rural Water Project in South Dakota, and the Umatilla Basin Project in Oregon. All three were funded by the Congress in F.Y. 1990. We believe it is wasteful to start and stop ongoing projects such as these three. We urge the Subcommittee to restore the funds to continue these three projects. We also strongly continue our support for the $67.3 million for the Safety of Dams program (excludes $14.2 million for Central Arizona Project's Roosevelt Dam).

Construction and Planning for the Corps of Engineers

We strongly support the $1.4 billion for construction of Corps of Engineers' water and power projects.

Central Valley Project

We support the appropriation of $19.8 million in F.Y. 1991 for the Central Valley Project. The Auburn-Folsom South Dam has a potential of 300 MW of hydroelectric power, with the possibility of an additional 400 MW for pumpback units. We support the Bureau of Reclamation's efforts in working with the American River Authority that proposes a $700 million bond issue to pay half the cost to build this much needed multipurpose project.

Richard B. Russell Dam

Funds in the amount of $22.9 million are needed in F.Y. 1991 for continued construction of the Richard B. Russell Dam Project on the Savannah River between Georgia and South Carolina. It will provide 600 MW of needed hydroelectric power, 300 MW base load, and 300 MW of pumpback power.

Garrison Diversion Unit

We recommend restoration of the $47.0 million required for construction of the Garrison Diversion Unit. The Garrison Unit is authorized by law and has en excellent benefit-cost ratio and is strongly supported in North Dakota. This $47.0 million would be applied toward the completion of the Garrison Diversion Unit. These funds would allow the completion of Reach 2 of the New Rockford Canal and construction of recreation facilities. State and Indian municipal, rural and industrial water programs, and continued purchase and development of fish and wildlife lands for mitigation would also be funded.

Harry S. Truman Dam and Reservoir

We support the appropriation request for $11.5 million in F.Y. 1991 for construction and operation and maintenance at the Harry S. Truman Dam and Reservoir and urge the use of the full hydro potential at the project.

Central Arizona Project

We urge the Subcommittee to appropriate $198.5 million required in F.Y. 1991 to continue construction of the Central Arizona Project . We are pleased with the excellent progress being made to deliver water to a variety of needs in arid Arizona.

Animas-LaPlata Project

As in the past, we continue our support of the Animas-LaPlata Project because it will implement the agreement between the Indians, the federal government and the States of Colorado and New Mexico to resolve long-standing water rights. $13.4 million is needed to expand construction efforts that will begin this Summer and thereby enable the completion of the project within an engineeringly efficient schedule of 12 years.

Central Utah Project

We request support of the $98.8 million F.Y. 1991 budget request for the Bonneville Unit of the Central Utah Project. Most of these funds will be used for work on highway relocations, land acquisition and construction of Stage II of the Jordanelle Dam and Reservoir. New contracts will be awarded for Indian Ford Pumps, for the Sixth Water Tunnel and Aqueduct and for the land and rights for the Diamond Fork Pipeline.

Columbia Basin and Other Pacific Northwest Projects

NRECA supports the $110.4 F.Y. 1991 appropriation request for irrigation facilities and the Third Power Plant at Grand Coulee, Chief Joseph, Bonneville and other facilities of the Columbia Basin projects.

Mni Wiconi Rural Water Project

Congress appropriated $500,000 to initiate the construction of the Mni Wiconi Rural Water Project in F.Y. 1990. Although the Office of Management and Budget did not fund the project, we urge the Subcommittee to provide $1.5 million to proceed with the project's construction so that municipal, rural and industrial water can be provided to the Pine Ridge Indian Reservation and to ranching and farming areas in Southwestern South Dakota.

Umatilla Basin Project

In keeping with the spirit of provisions in the Pacific Northwest Electric Power Planning and Conservation Act, we urge a continuance of the Umatilla Basin Project as authorized by Public Law 100-557. OMB failed to provide a F.Y. 1991 allowance that would enhance instream flows in the Umatilla River for anadromous fishery, consistent with a F.Y. 1990 Congressional appropriation of $641,000 to initiate construction. We recommend follow-on funding of $7 million to complete this $45.7 million endeavor. The $7.0 million would be used to construct the first phase West Extension Irrigation District water exchange facilities, to begin designs of the Columbia River pumping plant, and to complete pre-design activities on the remainder of the project.

Dolores Project, Colorado

Now that the Dolores Project is two-thirds complete, substantial benefits will accrue to the water and power users of Southwestern Colorado during the next three fiscal years. A full supply of water will be delivered to 11,400 acres in F.Y. 1991 through a prospective appropriation of $50.4 million. This will also prepare the way for another 3,000 acres in the next fiscal year, along with 12,750 kilowatts of power that will be generated by the Towaoc Powerplant. The Towaoc power supply will become a part of the Colorado River Storage Project power system.

North Loup Division, Missouri River Basin Project, Nebraska

We are pleased that the Administration has decided to resume construction of Davis Creek Dam, an integral part of the North Loup

Division. Congresswoman Smith's persistence in explaining the merit of the entire project has paid off and we salute her. The NRECA endorses the Bureau's request of $21.6 million, for this will allow funding for the completion of Davis Creek Dam and allow substantial work to be accomplished on the Fullerton and Elba canals and laterals.

Groundwater Recharge Demonstration Program

A joint state-federal program will be continued in F.Y. 1991 to test various artificial means of supplementing groundwater supplies in the West. Reclamation will carry out cooperative grants with 21 projects in the western states.

Boulder Dam Project

We urge the appropriation of $23.9 million in F.Y. 1991 to make Boulder Dam safe for visitors. Funds would be used to complete work on the elevator shaft, visitor tour galleries and roadway realignment. These funds would also provide for initiation of construction of the multi-storage parking structure and visitors' tour center.

Bureau of Reclamation O&M Budget

We support an increase to $231.5 million for the Bureau of Reclamation's operation and maintenance (O&M) budget. Adequate O&M of projects remain a matter of the highest priority in order to meet contractual commitments for delivering water and power benefits to consumers. We were disappointed that the revolving fund was not adopted; it would have taken care of the Bureau of Reclamation O&M program in future years and provided flexibility needed for a business-like O&M program which, as you know, is financed by the users.

Federal Power Marketing Administrations

NRECA supports the $555.0 million for F.Y. 1991 appropriation request for federal power marketing agencies. The F.Y. 1991 requests by agencies are: $326.0 million for the Western Area Power Administration, $20.3 million for the Southeastern Power Administration, $35.4 million for the Southwestern Power Administration, and $3.2 for the Alaska Power Administration.

We support the Bonneville Power Administration's (BPA) $170.1 million budget funded through its self-financing revolving fund procedures. We also support restoration of borrowing authority for the third 500-kV line for BPA. We oppose OMB's proposal to expense the conservation program of BPA. We believe BPA should continue to capitalize this work as it does other resources. We oppose OMB action in reducing WAPA's staff by about 83 filled positions and BPA's staff by some 200 filled positions.

Nuclear Programs

Our association has resolutions supporting nuclear power and nuclear research programs. We request the Subcommittee to provide funds for the F.Y. 1991 budget request of $683.5 million for nuclear R&D programs and the nuclear waste fund. Funds to continue development of advanced nuclear technology are essential for maintenance of a viable nuclear industry. Nuclear power now provides about 20 percent of our nation's electrical needs and is vital to our economy. We urge the Subcommittee to provide all the funds requested for the following programs: $31.5 million for light water reactors; $47.0 million for advanced reactors; $54.5 million for space/defense power systems; $60.2 million for advanced radioisotope systems; $140.5 million for facilities; and $292.8 million for the nuclear waste fund.

The new advanced light water and gas reactors offer passive and inherent safety that excludes the possibility of core melt-down, the need for emergency evacuation plans, and assures economic nuclear power in small modular increments which can be factory fabricated. We believe these technologies will help reestablish a new political consensus favoring nuclear power. We appreciate your interest and support of nuclear power.

Clean Coal Technology

NRECA supports the completion of the $2.5 billion clean coal program to expand the number of commercially available technologies for reducing sulfur and nitrogen oxide emissions from coal-fired power plants. We view this as a wise investment which is matched by private sector funding to help develop technologies that will comply with the proposed Clean Air Act legislation.

I thank the Subcommittee for the opportunity to present this testimony.

SUBCOMMITTEE RECESS

Senator DOMENICI. If there are no further witnesses, the subcommittee stands in recess until 2 p.m.

[Whereupon, at 11:30 a.m., Wednesday, April 4, the subcommittee was recessed, to reconvene at 2 p.m. the same day.]

(AFTERNOON SESSION, 2:04 P.M., WEDNESDAY, APRIL 4, 1990)

NONDEPARTMENTAL WITNESSES

HEARING PROCEDURE

Senator JOHNSTON. The subcommittee will come to order. I want to welcome each one of you to the hearing today. We have a large number of witnesses who wish to be heard. Therefore, in accordance with our notification to each of the witnesses, it will take some self-restraint on the part of everyone to hold oral testimony to a minimum in order that all of you who have requested an opportunity to testify will be heard.

I ask that the prepared written statements from each of you who have worked those out so carefully be submitted for the record where they will be very carefully reviewed, I can assure you of that, both by the subcommittee and by our staff. Then if each witness will summarize or highlight the important points of his oral testimony, it would be most helpful.

I am especially glad to begin the hearing this afternoon with my distinguished colleague and friend from California, Senator Pete Wilson.

CALIFORNIA WATER RESOURCE DEVELOPMENT PROJECTS

STATEMENT OF HON. PETE WILSON, U.S. SENATOR FROM CALIFORNIA

Senator WILSON. Thank you very much, Mr. Chairman. I greatly appreciate your courtesy. Of course, I am delighted to appear before the subcommittee to discuss California's energy and water needs for fiscal year 1991.

The decade of the 1990's promised to be a very challenging decade for California, as we attempt to manage our water resources to meet a growing population that will soon reach 30 million people. Part of that challenge will be to deal with the long-term effects of an all-too-familiar problem, the continuing drought that has afflicted us for now going into a fourth year.

California, for those who are not aware, is faced with that situation. Our rich agricultural economy, our abundant and diverse natural resources, our population centers, outstanding fish and wildlife areas, all depend on a stable supply of water. Yet, as a result of this now 4-year drought, tremendous sacrifices are being made. The question that will affect nearly all of our residents in this decade of the 1990's and beyond is how we can best balance the various water resource needs of the State.

I am particularly grateful that, once again, the very considerable time and energy and talents of some distinguished Californians have been brought together. In order to benefit the subcommittee, as in years past, they have very systematically sought to order and prioritize those California water needs. These are recommendations assembled by the California Marine Affairs and Navigation Conference, better known as C-MANC, and the California Water Commission. These organizations have done an outstanding job of coordinating these numerous requests for appropriations from throughout the State and organizing them into a very useful package of information for the subcommittee's consideration.

The California Water Commission has subjected all these funding requests, even the administration's, to a very rigorous analysis. The commission is aware of the severe budget constraints under which the Congress is working and they will not recommend a project unless they are convinced that it is absolutely necessary.

I thank this subcommittee, Mr. Chairman, for its past leadership, its very great assistance in funding two vitally needed flood control projects that will again need the committee's support this year: the Santa Ana River mainstem and the Sacramento River flood control project.

SANTA ANA RIVER MAINSTEM PROJECTS

The Santa Ana River mainstem is vital to the protection of over 2 million residents in the San Bernardino, Riverside, and Orange County areas who live in a flood plain of the Santa Ana River, which the Corps of Engineers has determined to pose an enormous threat. It is the Corps' judgment that flooding of this river could result in the significant loss of life and an estimated $12 billion in property damage. The Santa Ana River mainstem project will provide the kind of needed flood protection to prevent that through the construction and enlargement of dams, levees and channels.

SACRAMENTO RIVER FLOOD CONTROL PROJECT

The Sacramento River flood control project is also of critical importance. Because of the dry winters that California has experienced over the last several years, Sacramento's flood protection has not been seriously tested since 1986. However, in the winter of that year, that protection was almost overwhelmed. Corps officials have reported that if it had rained only 1 more inch during the storms in February 1986, the entire city of Sacramento could have been flooded. Because of the real possibility that this might happen again, it is essential that levee repair and reconstruction be completed as soon as possible.

The subcommittee's past support has enabled these important projects to begin meeting the flood control needs of their respective locales. I very strongly urge the subcommittee to continue that marvelous support for these projects at levels that are set forth in the administration's budget request.

Each of the water commission's recommendations, and not just those for the Santa Ana River mainstem or the Sacramento flood control projects, warrant the subcommittee's close attention and their support. In addition, a number of very important Corps of Engineers flood control and harbor maintenance projects are in need of funding. These projects will be addressed later today in testimony by representatives of C-MANC and by other witnesses as well. Two examples of projects not included in the administration's budget request that should be given careful analysis by the subcommittee are the Oceanside sand bypass system and the Redondo Beach-King Harbor breakwater.

OCEANSIDE, CA, SAND BYPASS SYSTEM

The sand bypass system is designed to capture sand trapped at the harbor entrance and transported through a submerged pipe to replenish adjacent areas. The operation of this experimental system began in June 1989 and it has proven very effective. Last year, Congress appropriated $2.6 million for the planning and the initial construction of the project. It is now in a critical phase, requiring the installation of fluidizers that promise to make that system work even more efficiently. However, the Corps has withheld the allocation of funds for construction of these fluidizers pending approval of a report on the sand bypass system.

If the fluidizers are successful, they could reduce substantially the need for costly maintenance dredging in our Nation's harbors, and the city of Oceanside simply does not have the funds to test this very promising new technology. To maintain its commitment to this project, the Federal Government must appropriate for the city's fiscal year 1991 request $2.7 million.

REDONDO BEACH-KING HARBOR, CA, BREAKWATER

As for the Redondo Beach-King Harbor breakwater project, it is time for the subcommittee to move forward to the construction phase in fiscal year 1991. Mr. Chairman, since the Federal Government began studying the need for harbor protection over 10 years ago, a succession of coastal storms have ravaged the Redondo Beach-King Harbor, causing over $20 million in storm-related damages. Further delay at a time when the project is ready to advance to the construction phase opens the door to further potential devastation in the event of continued severe coastal storms. That breakwater is essential.

This subcommittee, in particular, has been more than sympathetic to the need in this area, and I only urge that you continue doing so at this critical juncture when we have it within our grasp to produce the final protection required. Again, these are just a few examples, Mr. Chairman, of the projects that will benefit from additional funds that can be made available by the subcommittee, and I am submitting to the subcommittee a complete list of the projects which have my strong support.

I thank you, Mr. Chairman and the subcommittee, for the very considerable work that you have done in the past and for the careful consideration of these requests that I know you will give in the future, and I am grateful to you for taking the time to listen to these witnesses. They give a great deal of time and effort, not just to the presentation that you will hear this afternoon but to all the hard work that has preceded the presentations themselves. Thank you very much, sir.

Senator JOHNSTON. Thank you very much, Senator Wilson, for an excellent statement. We are very aware of the excellent projects which you describe in your statement, particularly the Santa Ana project. We know of the devastation which the Sacramento River could render to that city, so we want to respond to that. It is also an extraordinarily expensive project, as you know, and we are trying to make do with very short dollars. I can tell you we will give it high priority, along with the other projects which you describe, and do the best we can on short rations. We think we ought to have a bigger peace dividend for this committee. We think we can spend it very well on very high priority projects right here, what you call infrastructure.

Senator WILSON. Thank you very much, Mr. Chairman.

Senator JOHNSTON. Thank you, Senator Wilson.

[The statement follows:]

STATEMENT OF SENATOR PETE WILSON

MR. CHAIRMAN, I AM DELIGHTED TO APPEAR BEFORE YOUR SUBCOMMITTEE TODAY TO DISCUSS CALIFORNIA'S ENERGY AND WATER NEEDS FOR FISCAL YEAR 1991.

UNDOUBTEDLY, THE 1990'S PROMISE TO BE A CHALLENGING DECADE FOR CALIFORNIA AS IT ATTEMPTS TO MANAGE ITS WATER RESOURCES TO MEET A GROWING POPULATION THAT WILL SOON REACH THIRTY MILLION. PART OF THIS CHALLENGE WILL BE TO DEAL WITH THE LONG-TERM EFFECTS OF AN ALL TOO FAMILIAR PROBLEM: THE CONTINUING DROUGHT SITUATION OF THE STATE.

CALIFORNIA, FOR THOSE WHO ARE NOT AWARE, IS IN ITS FOURTH CONSECUTIVE YEAR OF DROUGHT AND IS CONFRONTED WITH VERY SERIOUS WATER SUPPLY AND CONSERVATION DECISIONS.

THE STATE'S RICH AGRICULTURAL ECONOMY, ABUNDANT AND DIVERSE NATURAL RESOURCES, HEAVILY POPULATED URBAN AREAS, AND OUTSTANDING FISH AND WILDLIFE ALL DEPEND ON A STABLE SUPPLY OF WATER. YET, AS A RESULT OF THE CURRENT DROUGHT, TREMENDOUS SACRIFICES MUST BE MADE. THE QUESTION THAT WILL AFFECT NEARLY ALL OF CALIFORNIA'S RESIDENTS IN THE 1990'S AND BEYOND IS HOW WE CAN BEST BALANCE THE VARIOUS WATER RESOURCE NEEDS OF THE STATE.

I HIGHLY COMMEND TO THE COMMITTEE'S ATTENTION THE RECOMMENDATIONS ASSEMBLED BY THE CALIFORNIA MARINE AFFAIRS AND NAVIGATION CONFERENCE (C-MANC) AND THE CALIFORNIA WATER COMMISSION. THESE ORGANIZATIONS HAVE DONE AN OUTSTANDING JOB COORDINATING THE NUMEROUS REQUESTS FOR APPROPRIATIONS FROM THROUGHOUT THE STATE AND ORGANIZING THEM INTO A USEFUL PACKAGE OF INFORMATION FOR THE SUBCOMMITTEE'S CONSIDERATION.

THE WATER COMMISSION HAS SUBJECTED ALL FUNDING REQUESTS -- EVEN THE ADMINISTRATIION'S REQUESTS -- TO A RIGOROUS ANALYSIS. THE COMMISSION IS AWARE OF THE SEVERE BUDGET CONSTRAINTS UNDER WHICH CONGRESS IS WORKING, AND WILL NOT RECOMMEND A PROJECT UNLESS CONVINCED THAT THE PROJECT IS NECESSARY.

I THANK THIS SUBCOMMITTEE FOR ITS PAST LEADERSHIP AND ASSISTANCE IN FUNDING TWO VITALLY NEEDED FLOOD CONTROL PROJECTS THAT WILL AGAIN NEED THE COMMITTEE'S SUPPORT THIS YEAR: THE SANTA ANA RIVER MAINSTEM AND THE SACRAMENTO RIVER FLOOD CONTROL.

THE SANTA ANA RIVER MAINSTEM IS VITAL TO THE PROTECTION OF OVER TWO MILLION RESIDENTS IN SAN BERNARDINO, RIVERSIDE, AND ORANGE COUNTIES WHO LIVE IN THE FLOOD PLAIN OF THE SANTA ANA RIVER.

THE CORPS OF ENGINEERS HAS DETERMINED THAT FLOODING OF THIS RIVER COULD RESULT IN SIGNIFICANT LOSS OF LIFE AND AN ESTIMATED $12 BILLION IN PROPERTY DAMAGE. THE SANTA ANA RIVER MAINSTEM PROJECT WILL PROVIDE NEEDED FLOOD PROTECTION THROUGH THE CONSTRUCTION AND ENLARGEMENT OF DAMS, LEVEES AND CHANNELS.

THE SACRAMENTO RIVER FLOOD CONTROL PROJECT IS ALSO CRITICAL. BECAUSE OF THE DRY WINTERS CALIFORNIA HAS EXPERIENCED OVER THE LAST SEVERAL YEARS, SACRAMENTO'S FLOOD PROTECTION HAS NOT BEEN SERIOUSLY TESTED SINCE 1986.

HOWEVER, IN 1986, THAT PROTECTION WAS ALMOST OVERWHELMED. CORPS OFFICIALS HAVE REPORTED THAT IF IT HAD RAINED ONLY ONE MORE INCH DURING THE STORMS IN FEBRUARY OF 1986, THE ENTIRE CITY OF SACRAMENTO COULD HAVE BEEN FLOODED. BECAUSE OF THE REAL POSSIBILITY THAT THIS COULD HAPPEN AGAIN, IT IS ESSENTIAL THAT LEVEE REPAIR AND RECONSTRUCTION BE COMPLETED AS SOON AS POSSIBLE.

THE SUBCOMMITTEE'S PAST SUPPORT HAS ENABLED THESE IMPORTANT PROJECTS TO BEGIN MEETING THE FLOOD CONTROL NEEDS OF THEIR RESPECTIVE LOCALES. I STRONGLY URGE THE SUBCOMMITTEE TO CONTINUE ITS SUPPORT FOR THESE PROJECTS AT LEVELS SET FORTH IN THE ADMINISTRATION'S BUDGET REQUEST.

EACH OF THE WATER COMMISSION'S RECOMMENDATIONS -- NOT JUST FOR THE SANTA ANA RIVER MAINSTEM AND SACRAMENTO RIVER FLOOD CONTROL PROJECTS -- WARRANT THE SUBCOMMITTEE'S CLOSE ATTENTION AND SUPPORT.

IN ADDITION, A NUMBER OF IMPORTANT CORPS OF ENGINEERS' FLOOD CONTROL AND HARBOR MAINTENANCE PROJECTS ARE IN NEED OF FUNDING. THESE PROJECTS WILL BE ADDRESSED LATER TODAY IN TESTIMONY BY REPRESENTATIVES OF C-MANC AND BY OTHER WITNESSES AS WELL.

TWO EXAMPLES OF PROJECTS NOT INCLUDED IN THE ADMINISTRATION'S BUDGET REQUEST THAT SHOULD BE GIVEN CAREFUL ANALYSIS BY THE SUBCOMMITTEE ARE THE OCEANSIDE SAND BYPASS SYSTEM AND THE REDONDO BEACH/KING HARBOR BREAKWATER.

THE SAND BYPASS SYSTEM IS DESIGNED TO CAPTURE SAND TRAPPED AT THE HARBOR ENTRANCE AND TRANSPORT IT THROUGH A SUBMERGED PIPE TO REPLENISH ADJACENT AREAS.

THE OPERATION OF THIS EXPERIMENTAL SYSTEM BEGAN IN JUNE 1989, AND HAS PROVEN VERY EFFECTIVE. LAST YEAR, CONGRESS APPROPRIATED $2.6 MILLION FOR THE PLANNING AND INITIAL CONSTRUCTION OF THIS PROJECT. IT IS NOW IN A CRITICAL PHASE REQUIRING THE INSTALLATION OF "FLUIDIZERS" THAT PROMISE TO MAKE THE SYSTEM WORK MORE EFFICIENTLY. HOWEVER, THE CORPS HAS WITHHELD THE ALLOCATION OF FUNDS FOR THE CONSTRUCTION OF THESE FLUIDIZERS PENDING APPROVAL OF A REPORT ON THE SAND BYPASS SYSTEM.

IF THE FLUIDIZERS ARE SUCCESSFUL, THEY COULD REDUCE SUBSTANTIALLY THE NEED FOR COSTLY MAINTENANCE DREDGING IN OUR NATION'S HARBORS. THE CITY OF OCEANSIDE DOES NOT HAVE THE FUNDS TO TEST THIS PROMISING NEW TECHNOLOGY. TO MAINTAIN ITS COMMITMENT TO THIS PROJECT, THE FEDERAL GOVERNMENT MUST APPROPRIATE THE CITY'S FY 1991 REQUEST OF $2.7 MILLION.

AS FOR THE REDONDO BEACH/KING HARBOR BREAKWATER PROJECT, IT IS TIME FOR THE SUBCOMMITTEE TO MOVE FORWARD TO THE CONSTRUCTION PHASE IN FY91.

MR. CHAIRMAN, SINCE THE FEDERAL GOVERNMENT BEGAN STUDYING THE NEED FOR HARBOR PROTECTION OVER TEN YEARS AGO, A SUCCESSION OF COASTAL STORMS HAVE RAVAGED REDONDO BEACH/KING HARBOR, CAUSING OVER $20 MILLION IN STORM-RELATED DAMAGES. FURTHER DELAY AT A TIME WHEN THE PROJECT IS READY TO ADVANCE TO THE CONSTRUCTION PHASE OPENS THE DOOR TO POTENTIAL DEVASTATION IN THE EVENT OF SEVERE COASTAL STORMS. THIS SUBCOMMITTEE, IN PARTICULAR, HAS BEEN VERY UNDERSTANDING OF THE NEED IN THIS AREA, AND I LOOK FORWARD TO WORKING WITH YOU TO SECURE CONSTRUCTION FUNDS FOR THIS PROJECT IN THE COMING FISCAL YEAR.

AGAIN, THESE ARE JUST A FEW EXAMPLES OF THE PROJECTS THAT COULD BENEFIT FROM ADDITIONAL FUNDS THAT MAY BECOME AVAILABLE TO THE SUBCOMMITTEE.

MR. CHAIRMAN, I AM SUBMITTING TO THE SUBCOMMITTEE A COMPLETE LIST OF THE PROJECTS THAT I STRONGLY URGE THE SUBCOMMITTEE TO ADOPT.

I THANK THE SUBCOMMITTEE FOR ITS CONSIDERATION OF THESE REQUESTS AND LOOK FORWARD TO WORKING WITH YOU IN CRAFTING THE FISCAL YEAR 1991 ENERGY AND WATER APPROPRIATIONS BILL.

PROJECTS MATCHING ADMINISTRATION'S BUDGET REQUEST

CORPS OF ENGINEERS

	PROJECT	ADMINISTRATION'S REQUEST
	SURVEYS	
	San Joaquin River Basin	
o	Kaweah River	70,000
o	Calaveras River	325,000
o	Mokelumne River and Tributaries	300,000
o	Sacramento-San Joaquin Delta Investigation	350,000
o	Inspection of Completed Works - Sacramento River Flood Control Project (O&M)	900,000
o	Northern California Streams - Yuba River Watershed	375,000
o	Northern California Streams - Yolo Bypass	400,000
o	Santa Ana River and Orange County	270,000
o	San Lorenzo River	98,000
o	Upper Guadalupe River	300,000
o	San Francisco County, Ocean Beach	336,000
o	Santa Barbara County	122,000
o	Humboldt Harbor and Bay	225,000
o	Los Angeles-Long Beach Harbors	250,000
o	Monterey Harbor	210,000
o	Santa Monica Breakwater	142,000
	PRECONSTRUCTION ENGINEERING AND DESIGN	
o	American and Sacramento Rivers	2,000,000
o	Northern California Streams - Dry Creek	300,000
o	Los Angeles County Drainage Area	2,000,000
o	Santa Barbara County Streams - Lower Mission Creek	550,000
o	Coyote and Berryessa Creeks	424,000
o	San Lorenzo River	100,000
o	Napa River Flood Control	410,000
o	San Rafael Canal	150,000
o	Santa Barbara Harbor	150,000
o	Morro Bay Harbor	270,000
o	Ventura Harbor	210,000
	CONSTRUCTION - GENERAL	
o	Cache Creek - Settling Basin	2,100,000
o	Guadalupe River	9,000,000
o	Santa Ana River Mainstem	65,000,000
o	Corte Madera Creek	400,000
o	Dry Creek - Warm Springs Lake	3,500,000
o	Fairfield Vicinity Streams	2,160,000
o	Merced County Streams	1,900,000
o	Pajaro River	2,000,000
o	Redbank and Fancher Creeks	7,500,000
o	Sacramento River Bank Protection	5,000,000
o	Sacramento River Flood Control Project	1,050,000
o	Sacramento River Urban Area Levee Protection	13,470,000
o	San Luis Rey River	5,500,000
o	Sweetwater River	5,000,000
o	Walnut Creek	4,800,000
o	Wildcat and San Pablo Creeks	1,700,000
o	Oakland Harbor	4,400,000
o	Sacramento River Deep Water Ship Channel	3,900,000
o	San Francisco Bay to Stockton (John F. Baldwin & Stockton Ship Channels	2,050,000

	OPERATIONS AND MAINTENANCE	ADMINISTRATION'S REQUEST
o	Bodega Bay Harbor	795,000
o	Humboldt Harbor and Bay	4,177,000
o	Marina Del Rey	1,700,000
o	Morro Bay Harbor	1,025,000
o	Noyo River and Harbor	613,000
o	Oakland Harbor	2,091,000
o	Oceanside Harbor	65,000
o	Port Hueneme	802,000
o	Richmond Harbor	2,176,000
o	Sacramento River	2,185,000
o	San Diego River and Mission Bay	877,000
o	San Joaquin River	1,385,000
o	San Pablo Bay and Mare Island Strait	2,566,000
o	San Rafael Creek	980,000
o	Suisun Channel	859,000
o	Ventura Harbor	1,270,000

BUREAU OF RECLAMATION

PROJECT

GENERAL INVESTIGATIONS

o	San Joaquin River Basin Resources Management Initiative	200,000
o	Indian Wells Valley Ground Water Project	175,000
o	Santa Ana Watershed Management Study	99,000
o	Colorado River Recharge Study	30,000

CONSTRUCTION

Central Valley Project

o	Sacramento River Division	3,866,000
o	San Luis Unit	2,911,000
o	O'Neill Dam	1,980,000
o	San Felipe Division (includes Watsonville Sub-Unit)	1,715,000
o	Trinity River Restoration Program	7,362,000
o	Suisun Marsh Preservation Agreement	1,900,000
o	Bradbury Dam - Cachuma Project	280,000
o	Colorado Riverfront Work/Levee System	6,300,000

OPERATIONS AND MAINTENANCE

MidPacific Region

o	Central Valley Project	64,033,000
o	Cachuma Project	185,000
o	Orland Project	185,000
o	Solano Project	1,963,000
o	Delta Support Studies	500,000

Lower Colorado Region

o	Parker-Davis Project	3,484,000
o	Yuma Area Projects	22,995,000

PROJECTS EXCEEDING ADMINISTRATION'S BUDGET REQUEST

CORPS OF ENGINEERS

PROJECT

SURVEYS

San Joaquin River Basin

- Caliente Creek
- Tule River
- San Joaquin River Mainstream and Tributaries Investigation
- Arroyo Pasajero

- Cache Creek Basin
- South Sacramento Urban Levees and Tributaries
- Walnut Creek Basin
- Whitewater River Basin

Coast of California, Storm & Tidal Waves

- Central Coast Region
- South Coast Region

- Pacific Coast Shoreline, Carlsbad
- Rancho Palos Verdes
- Newport Bay Harbor
- North Coast of Los Angeles County
- San Leandro Bay
- Santa Cruz Harbor
- West Newport Beach Harbor

PRECONSTRUCTION ENGINEERING AND DESIGN

- Carneros Creek
- Los Angeles-Long Beach Harbors
- Noyo River and Harbor (Breakwater)
- Oceanside Harbor Breakwater

CONSTRUCTION - GENERAL

- Sacramento River Restoration at Glenn-Colusa Irrigation District
- New Melones Lake
- Redondo Beach/King Harbor
- Richmond Harbor

OPERATIONS AND MAINTENANCE

- Channel Islands Harbor
- Crescent City Harbor
- Los Angeles-Long Beach Harbors Model
- Oceanside Experimental Sand Bypass System
- Petaluma River
- Port San Luis
- Redondo Beach Harbor (King Harbor)
- San Francisco Bay-Delta Model Structure
- San Francisco Harbor
- Santa Barbara Harbor/West Beach
- San Francisco Harbor and Bay (Drift Removal)

BUREAU OF RECLAMATION

PROJECT

- Temperature Control Device at Shasta Dam
- American River Folsom South Optimization Study
- Auburn-Folsom South Unit
- Folsom Reoperation Study - Reservoir Operations
- Eastern Municipal Water District Project Loan
- Salinas Valley Basin Water Management Plan
- Calaveras/Stanislaus Rivers O&M Study
- San Joaquin Valley Conveyance Study
- Delta Water Management Program
- Off-Stream Storage
- Refuge Water Supply
- Lake Elsinore Small Flood Control Project (Continuing Authority Program)

PREPARED STATEMENT OF SENATOR CRANSTON

Senator JOHNSTON. Senator Cranston, who spoke to me earlier today, has submitted a written statement which I will put in the record at this time. He was unable to be here, but sends his regards.

[The statement follows:]

STATEMENT OF SENATOR ALAN CRANSTON

Mr. Chairman, I appreciate this opportunity to provide the Senate Appropriations Committee Subcommittee on Energy and Water Development with testimony in support of Fiscal Year 1991 funding for Army Corps of Engineers and Bureau of Reclamation water programs in the State of California.

The availability of water and the proper management of its use are essential to the prosperity and economic well-being of California. As you may know, the state presently is experiencing a very dry year; in fact for the fourth consecutive year, there has been lower than normal percipitation and snowpack and poor reservoir storage carryover. As a result, the Bureau of Reclamation reports 50 percent deficiencies in its Central Valley Project water deliveries, and will be able to supply only half of the water to its agricultural contractors and 75 percent or 50 percent to municipal and industrial contractors depending upon their individual contracts.

The California Department of Water Resources also has announced it will be able to deliver only 50 percent of the water requested by its agricultural customers. While the Department expects to provide full deliveries to its urban customers, many areas of the state are under severe water restrictions, rationing or subject to economic incentives to conserve water.

Although these dry conditions reduce the potential for flooding this year, it is inevitable that we will have wet years in the future. It is imperative that we take advantage of this period to complete planned flood control projects to protect major populations areas of the state.

In addition, there are very real needs in the area of port improvements and maintenance dredging, shoreline and harbor protection from storms, and completion of ongoing water supply planning and development. These are important activities which deserve adequate funding.

The President's FY 1991 budget includes $210,655,000 for various Corps of Engineers projects in California -- a 28 percent increase over the $163,873,000 appropriated for these programs in Fiscal Year 1990. The President's budget also includes $162,746,000 for Bureau of Reclamation's activities in the state -- as compared with $158,788,000 approved by Congress for Fiscal Year 1990.

Mr. Chairman, I'm pleased to note that this budget contains sufficient funds for many vital projects including the Merced County Streams project which after 36 years is finally on track and under construction, the Guadalupe River flood control project, and the San Felipe water project which is expected to be completed in FY 1991.

This afternoon you will be hearing from representatives of the California water community, the California Water Commission, the State Reclamation Board, the California Marine Affairs and Navigation Conference, port directors, water districts, and elected officials in support of the projects included in the budget. In addition, some witnesses will be requesting budget increases which deserve your careful consideration.

The California Water Commission is recommending an increase of $21,355,000 for projects which it feels merit special consideration. These include Sacramento River Restoration at Glenn-Colusa Irrigation District, Cache Creek Basin investigation, South Sacramento Urban Levees and Tributaries study, Caliente Creek study, Tule River study, San Joaquin River Mainstem and Tributaries investigation, Arroyo Pasajero study, Walnut Creek Basin study, Carneros Creek study, New Melones Lake project, Shasta Dam Temperature Control Device, Salinas Valley Water Resource Management Plan, Eastern Municipal Water District loan, San Sevaine Creek Water Project loan, Off Stream Storage investigation, San Joaquin Valley conveyance study, Delta Water Management Program, Refuge Water Supply, and Coleman National Fish Hatchery.

The Reclamation Board of the State of California also is supporting increases for Sacramento River Restoration at Glenn-Colusa Irrigation District, Cache Creek investigation, South Sacramento Urban Levees and Tributaries study, Caliente Creek study, Tule River study, San Joaquin River Mainstem and Tributaries study, and Arroyo Pasajero survey.

The California Marine Affairs and Navigation Conference is requesting an additional $27,184,000 for a limited number of Corps projects. These include the Pacific Coast Shoreline Carlsbad study, Rancho Palos Verdes study, Coast of California Storm and Tidal Waves Central Coast Region and South Coast Region studies, Newport Bay Harbor study, North Coast of Los Angeles County study, San Leandro Bay study, Santa Cruz Harbor study, West Newport Beach Harbor study, Los Angeles-Long Beach Harbors design, Noyo River and Harbor breakwater design, Oceanside Harbor design, Redondo Beach breakwater construction, Richmond Harbor, Channel Islands Harbor dredging, Crescent City Harbor, Los Angeles-Long Beach Harbors Model, Oceanside Experimental Sand Bypass System, Petaluma River dredging, Port San Luis breakwater repair, Redondo Beach breakwater repair, San Francisco Bay-Delta Model Structure, San Francisco Harbor dredging and dredge material disposal management program, Santa Barbara Harbor dredging, and Drift Removal San Francisco Harbor and Bay.

Mr. Chairman, I would like to comment briefly on several of these items. Regarding the Shasta Dam Temperature Control Device, this work is needed to help restore the Sacramento River fishery and especially the winter-run chinook salmon, now federally listed as a threatened species. The Bureau of Reclamation is preparing the environmental impact statement on the project and design specificiations should be completed in December. Assuming passage of authorizing legislation this year, I hope the Committee will be able to provide funds to initiate construction in FY 1991.

Regarding funding for the Eastern Municipal Water District reclamation project, the District is currently preparing its application for a Small Reclamation Projects Act loan and hopes for approval by the Bureau of Reclamation in June. Assuming this approval is forthcoming, I hope the Committee will be able to provide $2 million in FY 1991 as requested.

Regarding the Redondo Beach breakwater, an appropriation of $4.35 million would permit the Corps to make critically needed improvements to the existing breakwater. The Corps will complete the preconstruction engineering and design work this year; the local sponsor has committed its share of funding; and the project can be completed in one year.

Regarding the Oceanside sand bypass system, last year Congress appropriated $2.6 million for the Corps to construct phase 2 of the project, the installation of fluidizers. However, the Corps has withheld construction funds pending approval of a status report on the project and availability of funds to operate the system in FY 1991. But no monies are in the FY 1991 budget. An appropriation of $2.7 million is essential to complete phase 2 and protect the federal investment of $12 million in the system.

Mr. Chairman, in view of the Committee's time, I have mentioned only a few of the many meritorious California projects about which you will be hearing today. I ask you give every consideration to the requests of the others who testify this afternoon -- I know you will, as you have in the past. I thank you for your support and assistance.

CALIFORNIA NAVIGATION PROJECTS

STATEMENT OF ROBERT H. LANGNER, PRESIDENT, CALIFORNIA MARINE AFFAIRS AND NAVIGATION CONFERENCE, SAN FRANCISCO

Senator JOHNSTON. I do not see any other Members of Congress here at the time, so we will now hear from the California Marine Affairs and Navigation Conference, Bob Langner, president.

We are glad to have you back, Mr. Langner.

Mr. LANGNER. Thank you, sir. It is a pleasure to be here for my 32d continuous year before this committee, Mr. Chairman. Should there be a record broken in the future, we would like to hear about it.

Senator JOHNSTON. We appreciate seniority on this committee. [Laughter.]

Mr. LANGNER. Thank you, sir. Our role remains the same, however, to bring this background of testimony to you in as brief and effective a manner as possible and tell you that we are united in supporting the President's budget. We have analyzed it and have a schedule before you, and we have made certain improvements on it, recommendations which are also on our schedule, which we would like to have submitted for the record if you would, sir.

We have witnesses here to support these specific projects, and I will call upon the first such witness, the chairman of our board of directors and general manager of the Ventura Port District, Richard Parsons.

[The statement follows:]

STATEMENT OF ROBERT H. LANGNER

Mr. Chairman and Members:

It is a particular pleasure - for obvious reasons - to be able to be before you today and to state that this is my 32nd annual appearance. Should some record be established within the next year or so as the result of this consistency and endurance, let's hope that this will be reported to C-MANC.

Unchanged is the purpose and role served by this almost one-third century of testimony: Our purpose is to bring to you in as brief and effective a manner as possible our recommendations for funding of California navigation and related projects, and to present witnesses and others here from the Golden State in support of these requests.

Once again C-MANC has united to study and unanimously approve the schedule appended to this written statement supporting the President's budget proposals for the coming fiscal year, and as we have always done, in certain instances recommending increases.

Specifically, our recommendations include proposals for an additional $47.5 million covering 68 California projects, of which $26.1 million would provide funds in addition to those recommended by the President, for operations and maintenance of existing projects.

Those supporting these projects and who have initiated requests - in some instances for funds additional to those contained in the President's budget - will present their rationales and reasons as part of C-MANC's scheduled testimony today.

We are aware of the seemingly insurmountable budgeting and deficit problems with which you and the Administration must chronically contend, we are realistic. Funds have been more limited, discretionary cuts made, demands increase. We do however persist in our conviction that public works in general, and navigation and related projects in particular, afford our economy and well-being cost-effective benefits. The track record is beyond dispute. We seek only reasonable consideration, in the context of the traditional Federal role and historic commitment - however bent in recent years and decisions.

Opinions and advice vary and confuse - and the supplicants grow in numbers in the wings. But sooner or later, economies must result from the historic changes taking place in our defense and alliance commitments. A near-half century of funding will undergo changes in applications. We add our hopes for appropriate sharing - in the national interest - for projects such as we represent.

It must come as no surprise to you that C-MANC continues with its many expressed concerns - only some of which are addressed in your Committee's mandate. However, your sympathetic, understanding of these complaints and laments - and little attention given elsewhere in the Federal establishment - tempt us to again present our views.

In reviewing the Army's and Corps' testimony before the Appropriations and Public Works Committees, the emphasis on cost-sharing and user fees is noted; the principle is properly described and project sponsors and beneficiaries - public and industry - have accepted the concept, increases projected, and are cooperating. Problems were anticipated in putting the programs into effect - and were realized and contended with.

Another major emphasis - not new, certainly, but with fresh enthusiasm - are environmental concerns. Here, consensus is much less certain. Project sponsors and facility users - large and small - face increasing problems, rising costs, greater delays, more confusion - than ever before. Both at the Federal level, and increasingly with state and local initiatives and responses, demands on and proposals to those responsible for our ports and harbors, marinas and waterways sometimes appear Orwellian in nature and Kafkaesque in application.

We find no longer certain an advocacy avenue within the system. Rather, it is all the more evident that the inherent importance and value of waterborne commerce and navigation, the fisheries and water-related recreation must be constantly re-proven, demonstrated - pleaded for. The burden of proof seems by expediency and political convenience shifted almost entirely to us.

Perhaps these views are skewed by our origins - California remains - for better or worse - "Where it's at". Our pioneering and innovations are not limited to wines, Silicon Valley or aerospace - the environment movement is among our "inventions", it would appear. C-MANC's Dredging Committee was formed more than 17 years ago - almost a decade before serious imitation and similar response elsewhere. The Committee headed by Frank Boerger - then and now - presented a report, "The Regulation of Dredging: A Muddle Over Mud", in July, 1978, on dredging problems and permitting before the House's Port Caucus.

Changes since have largely not been for the better. The Corps' new project management procedures have been impresssive in description. Even more impressive was its response and splendid team efforts in Northern California after the October 17 earthquake - an organized capability we have (perhaps too often) seen on our coastline and in our valleys due to storms and floods.

These are on the "plus" side. Slow moving responses have become more often typical, as the Corps' role and priorities shift to its greater environmental sensititivity and necessary accommodations with EPA and others who are "non-project" (seemingly, "anti-project") oriented. The paperwork proliferates, the meetings and conferences, task forces and committees - all grow in what appears often as reverse correlation with the slow pace of projects' maintenance and improvements. Is this to be a permanent - and evergrowing - condition of American life?

Our list perhaps is also becoming too "permanent" - and we will limit it now - before wading into wetlands and mitigation mine fields - except to note also the transportation infracture "discovery" - how "bad is it". (Excerpts from 31 years of previous testimony could reveal earlier alarms we sounded.) DOT's plan/proposals are - at first reading - "of their times", with a surplus of vision and funding deficit. We do however rush to cite the critical highways (and rail) improvements to move/relocate cargoes, needs accelerated by pollution imperatives. Trust funds existing for such Federal support/investment should remain so dedicated, and not comingled with the general budget.

To finish on an upbeat: the good news includes that the dynamics of the West proceed apace; the Pacific Coast is doing fine, thank you, in its trade and shipping, with California showing the greatest growth. No statistics needed this year - they all look good for 1989, and so far, remain that way. Winters too dry and summers too warm produce more boaters, waders and swimmers - there are never too many facilities out our way.

Thank you, Mr. Chairman, and Members - for your consistent patience and courtesy.

Attachment

C-MANC supports fully the President's Budget, and further, recommends additional funding of a limited number of projects.

(Amounts in Thousands)

			FY 1990		FY 1991 FY 91 C-MANC Recommendations		
Project	Total Cost C of E	Balance After FY 1989	Conference Report	Work Allowance	President's Budget	Total Recommendations (When Greater than Budget)	Purpose of Funding
POTENTIAL NEW SHORELINE PROTECTION STUDIES							
Pacific Coast Shoreline, Carlsbad	350	350	0	0	0	350	Complete Recon Report
SHORELINE PROTECTION STUDIES IN PROGRESS							
Rancho Palos Verdes	1,360	1,360	90	85	0	500	Initiate Feasibility Phase
San Francisco County, Ocean Beach	875	875	150	143	336	N/C	Complete Recon and Initiate Feasibility Phase
Santa Barbara County	830	360	250	150	122	N/C	Continue Feasibility Phase
POTENTIAL NEW SPECIAL STUDIES							
Coast of California, Storm & Tidal Waves, Central Coast Region	2,000	2,000	0	0	0	450	Expand study to permit examination of Central Coast
Coast of California, Storm & Tidal Waves, South Coast Region	2,000	2,000	0	0	0	800	Expand study to permit examination of South Coast

(Amounts in Thousands)

Project	Total Cost C of E	Balance After FY 1989	FY 1990 Conference Report	FY 1991 Work Allowance	FY 1991 FY 91 C-MANC Recommendations President's Budget	FY 1991 FY 91 C-MANC Recommendations Total Recommendations (When Greater than Budget)	Purpose of Funding
POTENTIAL NEW NAVIGATION STUDIES							
Newport Bay Harbor	270	270	0	0	0	270	Complete Recon Report
North Coast of Los Angeles County	510 1/	345	0	0	0	345	Complete Recon Report
San Leandro Bay	375 2/	325	0	0	0	325	Complete Recon Report
Santa Cruz Harbor	360	360	0	0	0	360	Complete Recon Report
West Newport Beach Harbor	270	270	0	0	0	270	Complete Recon Report

1/ Includes $165 incurred prior to 30 September 1977.
2/ Includes $50 incurred prior to 30 September 1978.

Project	Total Cost C of E	Balance After FY 1989	FY 1990 Conference Report	FY 1991 Work Allowance	FY 1991 FY 91 C-MANC Recommendations President's Budget	FY 1991 FY 91 C-MANC Recommendations Total Recommendations (When Greater than Budget)	Purpose of Funding
NAVIGATION STUDIES IN PROGRESS							
Humboldt Harbor & Bay (Deepening)	875	525	315	200	225	N/C	Continue Feasibility Study
Los Angeles-Long Beach Harbors	9,070	1,100	0	850	250	N/C	Complete Feasibility Study
Monterey Harbor	775	775	155	193	210	N/C	Complete Recon Report and Initiate Feasibility Phase
San Francisco Bay Shoreline	4,354	65	65	62	0	N/C	Funded for Completion
Santa Monica Breakwater	535	375	140	150	142	N/C	Continue Feasibility Study

(Amounts in Thousands)

Project	Total Cost C of E	Balance After FY 1989	FY 1990 Conference Report	FY 1990 Work Allowance	FY 1991 FY 91 C-MANC Recommendations President's Budget	FY 1991 FY 91 C-MANC Recommendations Total Recommendations (When Greater than Budget)	Purpose of Funding
			POTENTIAL NEW PRECONSTRUCTION ENGINEERING AND DESIGN				
San Rafael Canal	11,700 (750)	(750)	(0)	(0)	(150)	N/C	Initiate Design
Santa Barbara Harbor	3/ (780)	(780)	(0)	(0)	(150)	N/C	Initiate Design
			CONTINUING PRECONSTRUCTION ENGINEERING AND DESIGN				
Los Angeles - Long Beach Harbors	310,000 (6,000)	(6,000)	(750)	(0)	(0)	(3,000)	Initiate Design
Morro Bay Harbor	2,740 (560)	(560)	(100)	(2)	(270)	N/C	Continue Design
Noyo River and Harbor (Breakwater)	23,000 (2,000)	(577)	(137)	(19)	(0)	(400)	Continue Design
Oceanside Harbor	3,600 (750)	(685)	(450)	(428)	(175)	(257)	Complete Design
Ventura Harbor	5,600 (750)	(720)	(440)	(419)	(210)	N/C	Continue Design

3/ Project cost estimate under review

(Amounts in Thousands)

FY 1991

						FY 91 C-MANC Recommendations		
Project		Total Cost C of E	Balance After FY 1989	FY 1990 Conference Report	Work Allowance	President's Budget	Total Recommendations (When Greater than Budget)	Purpose of Funding
POTENTIAL NEW CONSTRUCTION PROJECTS								
Redondo Beach (King Harbor)	(N)	5,135	4,350	0	0	0	4,350	Initiate and complete Breakwater construction
CONTINUING CONSTRUCTION PROJECTS								
Oakland Harbor	(N)	54,200	47,360	3,500	3,026	4,400	N/C	Continue Construction
Port San Luis	(N)	12,200	11,310	0	0	0	N/C	
Richmond Harbor	(N)	12,550	9,904	900	778	0	1,000	Continue Construction
Sacramento River Deep Water Ship Channel	(N)	21,700	17,847	2,800	509	3,900	N/C	Continue Construction
San Francisco Bay to Stockton (John F. Baldwin & Stockton Ship Channels)	(N)	123,800	68,978	2,650	2,042	2,050	N/C	Continue Construction
Surfside-Sunset & Newport Beach	(BE)	32,500	22,073	4,470	5,665	0	N/C	No current requirement for periodic nourishment

(Amounts in Thousands)

Project	FY 1989 Obligations	FY 1990 Estimated Obligations	FY 1991 President's Budget	FY 1991 FY 91 C-MANC Recommendations Total Recommendations (When Greater than Budget)	Purpose of Funding
OPERATIONS AND MAINTENANCE PROJECTS					
Bodega Bay Harbor	0	0	795	N/C	Periodic dredging
Channel Islands Harbor	3,058	94	3,421	3,700	Periodic dredging and seal north jetty
Crescent City Harbor	1,208	216	130	1,300	Condition survey and repair breakwater
Dana Point Harbor	0	135	0	N/C	No maintenance required
Halfmoon Bay Harbor (Pillar Point Harbor)	0	0	0	N/C	No maintenance required
Humboldt Harbor and Bay	857	3,036	4,177	N/C	Dredging, jetty repair and ocean disposal designation study
Los Angeles - Long Beach Harbors	289	722	0	N/C	No maintenance required
Los Angeles - Long Beach Harbors Model	870	479	155	760	Continue model maintenance, enhancement, and wave data acquisition
Marina Del Rey	146	148	1,700	N/C	Periodic dredging
Morro Bay Harbor	188	859	1,025	N/C	Dredging
Moss Landing Harbor	0	520	0	N/C	No maintenance required
Napa River	1,323	0	0	N/C	No maintenance required
Newport Bay Harbor	0	0	0	N/C	No maintenance required
Noyo River and Harbor	68	805	613	N/C	Dredging and ocean disposal designation study
Oakland Harbor	1,999	1,754	2,091	N/C	Dredging and bridge repair
Oceanside Harbor	104	594	65	N/C	Engineering and design for future dredging
Oceanside Experimental Sand Bypass System	1,005	1,758	0	2,700	Operation of Bypass Plant and construction of second phase
Petaluma River	805	0	0	1,200	Dredging
Port Hueneme	0	115	802	N/C	Dredging
Port San Luis	0	0	1,288	2,300	Breakwater repair

(Amounts in Thousands)

Project	FY 1989 Obligations	FY 1990 Estimated Obligations	FY 1991 FY 91 C-MAWC Recommendations President's Budget	FY 1991 FY 91 C-MAWC Recommendations Total Recommendations (When Greater than Budget)	Purpose of Funding
OPERATIONS AND MAINTENANCE PROJECTS					
Redondo Beach Harbor (King Harbor)	203	0	0	1,000	Breakwater repair
Redwood City Harbor	410	3,028	0	N/C	No maintenance required
Richmond Harbor	2,584	1,737	2,176	N/C	Dredging
Sacramento River					
Sacramento River (30 ft.)	106	512	2,115	N/C	Dredging and bank stabilization
Sacramento River (Shallow Draft)	82	75	70	N/C	Maintain lock
San Diego Harbor	890	0	0	N/C	No maintenance required
San Diego River & Mission Bay	87	30	877	N/C	Repair revetment adjacent to entrance channel
San Francisco Bay-Delta Model Structure	1,900	1,651	2,323	2,800	Annual maintenance, upgrade model and repair roof
San Francisco Harbor	1,245	3,990	1,530	7,000	Dredging and dredge material disposal management program
San Joaquin River	55	876	1,385	N/C	Dredging and bank stabilization
San Leandro Marina (Jack D. Maltester Channel)	809	379	0	N/C	No maintenance required
San Pablo Bay and Mare Island Strait	1,069	1,034	2,566	N/C	Dredging
San Rafael Creek	0	0	980	N/C	Dredging
Santa Barbara Harbor	167	1,027	750	1,250	Dredging
Santa Cruz Harbor	0	0	0	N/C	No jetty maintenance required
Suisun Bay Channel	248	1,148	859	N/C	Dredging
Suisun Channel	0	685	0	N/C	No maintenance required
Ventura Harbor	927	1,179	1,270	N/C	Dredging
Drift Removal (S.F. Harbor and Bay)	1,305	1,777	1,808	2,000	Drift removal, maintenance of debris boats, and replace dock ramp

VENTURA HARBOR, CA, BREAKWATER PROJECT

STATEMENT OF RICHARD PARSONS, GENERAL MANAGER, VENTURA PORT DISTRICT, CA

Mr. **PARSONS.** Mr. Chairman, on behalf of the California Marine Affairs and Navigation Conference, I do want to thank this committee for its past and current support of the important navigation projects in California. I also, speaking on behalf of the Ventura Port District, want to urge you to support the administration's funding request for the O&M maintenance in Ventura Harbor and also for preconstruction engineering and design of some planned improvements. I thank you, and I do have a more complete statement for the record.

[The statement follows:]

STATEMENT OF RICHARD PARSONS

Ventura Harbor is located along the Southern California coastline in the City of San Buenaventura, approximately 60 miles northwest of the City of Los Angeles. The Harbor opened in 1963. Annual dredging of the harbor entrance area is usually necessary inorder to assure a navigationally adequate channel. In 1968, the 90th Congress made the harbor a Federal project and committed the U. S. Army Corps of Engineers to provide maintenance dredging and a solution to the entrance problem. A detached breakwater and sand trap area, completed by the Corps of Engineers in 1972, alleviated some of the more damaging difficulties but continuing navigational problems have persisted. Additionally, the need for annual maintenance dredging continued, and the Corps of Engineers and the Ventura Port District have conducted maintenance dredging of the Harbor entrance within the limits of their jurisdiction from 1968 through the present time.

The harbor presently generates more than $30 million in gross receipts annually. That of course translates into thousands of both direct and indirect jobs. A significant portion of those jobs are associated with the commercial fishing industry and with vessels serving the offshore oil industry. Additionally, the headquarters for the Channel Islands National Park is located within the harbor, and the commercial vessels transporting visitors to and from the Park are now carrying about 75,000 people per year.

I

All of the operations of the Harbor, particularly those related to commercial fishing and the support boats for the oil industry, are highly dependent upon a navigationally adequate entrance to the Harbor. It is therefore respectfully requested that the Congress support the Army Corps of Engineers FY 91 Civil Works Budget request of $1,270,000 for the maintenance dredging of the Ventura Harbor entrance channel. The area of Corps of Engineers responsibility is illustrated in Photo No. 1.

II

The U. S. Army Corps of Engineers and the Ventura Port District finalized in June 1989 a cost shared Feasibility Study of the dangerous conditions associated with the harbor entrance. That study recommended a series of improvements designed to reduce shoaling and wave action in the entrance channel and involves the following components (see the attached color aerial photograph):

1) a 250 ft. spur groin at the end of the north jetty to improve the deflection of littoral sand flows into sand trap B;

2) a 300 ft. dogleg extension to the south end of the detached breakwater to provide improved wave sheltering for vessels transiting the entrance;

3) a 650 ft. long groin on the south beach approximately 1000 ft. downcoast from the south jetty to provide a mechanism for trapping drift material from the south; and

4) deepening and extending the entrance channel and sand trap A to provide for improved wave height attenuation and for additional sand storage volume.

The construction of the above features will also place the maintenance dredging of the entrance channel and sand trap areas on a biennial cycle rather than the present annual cycle. The fact that this results in a $433,000 reduction in average annual maintenance costs, becomes a key component in the 1.8:1 benefit/cost ratio justifying the $6.5 million project. The Port District, as the local sponsor, is committed to funding 20% of this project cost. Average annual costs for this project are estimated at $615,000. Average annual benefits, primarily savings in maintenance costs and commercial fishing losses, are estimated at $1,170,000.

With the support of this Subcommittee the Congress appropriated $440,000 in FY 90 to continue with the Design phase of the planned improvements. In order to assure that this project moves forward expeditiously, the Congress is urged to support the Army Corps of Engineers FY 91 Civil Works Budget request of $210,000 to continue the preconstruction engineering and design of the recommended project.

Amendment to the Testimony of Supervisor John Flynn, Ventura County

The Ventura County Board of Supervisors also thanks your Subcommittee for past aid in beach erosion and control projects in Ventura County. The County supports full funding to honor the commitment of the United States for the Biennial Dredge Project at the County's Channel Islands Harbor. This project is a coastal sand by-pass project of the United States Army Corps of Engineers. The Administration's FY91 budget request for Channel Islands Harbor dredging and maintenance is $3,421,000. We request that this amount be appropriated for FY91.

RICHMOND HARBOR, CA, NAVIGATION PROJECT

STATEMENT OF GEORGE LIVINGSTON, MAYOR, CITY OF RICHMOND, CA

ACCOMPANIED BY:

MICHAEL R. POWERS, PORT DIRECTOR, PORT OF RICHMOND, CA

LAWRENCE G. MALLON, SPECIAL COUNSEL, PORT OF RICHMOND, CA

Mr. LANGNER. We have a series of mayors now, Mr. Chairman, starting with Mayor George Livingston from the city of Richmond who has not appeared before this committee for some years, but he is back again as the mayor of Richmond.

Mr. LIVINGSTON. Thank you very much, Mr. Chairman. I am Mayor George Livingston from the city of Richmond. I have with me one of my staff people from the Port of Richmond, Michael Powers, and also Lawrence Mallon, a special counsel to our port. I am here on behalf of the city of Richmond and the city council.

We have a project that is in process, and we would appreciate any support that you can give us in order to reach some goals that we have in the future. The material that has been submitted to you will describe the project, and whatever support you give will certainly be appreciated. I would also like to thank Senator Pete Wilson and Senator Cranston for their support on this project. Thank you very much.

Mr. LANGNER. Accompanying Mayor Livingston was Michael Powers who is port director.

[The statement follows:]

STATEMENT OF GEORGE L. LIVINGSTON

I AM GEORGE L. LIVINGSTON, MAYOR OF THE CITY OF RICHMOND, CALIFORNIA. I AM ACCOMPANIED BY MR. MICHAEL R. POWERS, PORT DIRECTOR, AND MR. LAWRENCE G. MALLON, SPECIAL COUNSEL TO THE PORT. I APPEAR AT THE REQUEST AND ON BEHALF OF THE CITY COUNCIL OF THE CITY OF RICHMOND AS THE LOCAL SPONSOR OF THE PROJECT FOR NAVIGATION, RICHMOND HARBOR, CALIFORNIA, AUTHORIZED UNDER THE WATER RESOURCES DEVELOPMENT ACT OF 1986 (PUBLIC LAW 99-662).

THE CITY COUNCIL RECOGNIZES AND EXPRESSES ITS GRATITUDE TO OUR TWO SENATORS, THE HONORABLE ALAN CRANSTON AND THE HONORABLE PETE WILSON, AND TO YOU, MR. CHAIRMAN, AND THE OTHER MEMBERS OF THIS SUBCOMMITTEE AND STAFF FOR THEIR PRIOR EFFORTS IN FUNDING THIS NAVIGATION PROJECT OF CRITICAL IMPORTANCE TO THE FUTURE DEVELOPMENT OF THE PORT OF RICHMOND.

THE CITY COUNCIL FORMALLY EVIDENCED ITS SUPPORT FOR THE NAVIGATION PROJECT IN CITY COUNCIL RESOLUTION NO. 158-81 ADOPTED AUGUST 10, 1981, WHICH AUTHORIZED THE ENTRY INTO A LOCAL COOPERATION AGREEMENT (LCA) WITH THE SECRETARY OF THE ARMY UNDER SECTION 221 OF THE PUBLIC LAW 91-611 (42 U.S.C. 1962D-5B).

THE CITY OF RICHMOND SEEKS REINSTATEMENT OF ONE MILLION DOLLARS FOR THE RICHMOND NAVIGATION PROJECT AUTHORIZED IN THE WATER RESOURCES DEVELOPMENT ACT OF 1986 IN THE FISCAL YEAR 1991 ENERGY AND WATER APPROPRIATIONS MEASURE BEFORE THIS SUBCOMMITTEE. THESE AMOUNTS WERE REQUESTED BY THE OFFICES OF THE DISTRICT AND DIVISION ENGINEER, U.S. ARMY CORPS OF ENGINEERS, BUT WERE DELETED FROM THE PRESIDENT'S BUDGET REQUEST.

PROJECT CONSTRUCTION IS CURRENTLY SCHEDULED TO COMMENCE IN FISCAL YEAR 1993 WITH A FINAL LCA EXECUTED IN DECEMBER, 1992, AND

CONTRACT AWARD IN APRIL, 1993, WITH CONSTRUCTION COMPLETED BY DECEMBER, 1993. UNDER THAT PROPOSED PROJECT SCHEDULE, ADDITIONAL APPROPRIATIONS ARE REQUIRED IN FISCAL YEAR 1991 AND 1992 TO FUND THE PREPARATION OF A SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (SEIS) FOR THE PROJECT FOR THE ONE ORIGINALLY PREPARED IN 1981, A GENERAL DESIGN MEMORANDUM (GDM) FOR THE PROJECT, AND FOR ADDITIONAL SEDIMENT TESTING AND ANALYSIS.

THESE DOCUMENTS WILL REFLECT THE STAGED CONSTRUCTION ON THE PROJECT IN TWO PHASES FROM THE CURRENT 35 TO 38 FEET M.L.L.W. IN PHASE I TO BE FOLLOWED BY CONSTRUCTION TO THE AUTHORIZED DEPTH OF 41 FEET M.L.L.W. IN PHASE II, AND THAT UPLAND DISPOSAL IS NOW SUBSTITUTED FOR THE ORIGINALLY ANTICIPATED OCEAN DISPOSAL OF THE ESTIMATED 1.5 MILLION CUBIC YARDS DREDGED MATERIAL RESULTING FROM NEW CONSTRUCTION WORK.

WE ARE ADVISED BY DISTRICT STAFF THAT DELETION OF FUNDS IN THE SUCCEEDING FISCAL YEAR MAY JEOPARDIZE THEIR AUTHORITY TO CONTINUE TO EXPEND REMAINING AMOUNTS IN THE CURRENT FISCAL YEAR 1990 FOR PRE-CONSTRUCTION ENGINEERING AND DESIGN (PED) AND CONTINUING ENVIRONMENTAL STUDIES, INCLUDING DREDGED MATERIAL TESTING, AS WELL AS FOR THIRD PARTY CONTRACTING FOR SUPPLEMENTAL EIS PREPARATION.

THE CITY COUNCIL, AS THE NON-FEDERAL PROJECT SPONSOR, IS PREPARED TO MEET ITS STATUTORY COST-SHARING REQUIREMENTS UNDER THE 1986 ACT. IN SUBSTANTIAL FULFILLMENT OF ITS REQUIRED FINANCIAL CONTRIBUTION TO PROJECT CONSTRUCTION COST, IN MAY, 1989, THE CITY COUNCIL BY ORDINANCE NO. 21-89 CREATED A RICHMOND HARBOR NAVIGATION IMPROVEMENT DISTRICT, BELIEVED TO BE THE FIRST OF ITS KIND IN THE NATION. THIS WILL ENSURE TIMELY PAYMENT OF THE LOCAL SPONSOR'S SHARE OF PROJECT CONSTRUCTION COSTS THROUGH THE ANTICIPATED LEVY OF BENEFIT ASSESSMENTS ON THE MAJOR

BENEFICIARIES OF THE NAVIGATION IMPROVEMENTS. WE CURRENTLY PLAN TO BE IN A POSITION TO BRING A RESOLUTION OF INTENTION BEFORE THE CITY COUNCIL TO LEVY A BENEFIT ASSESSMENT FOR THIS PURPOSE IN SPRING, 1992, IN ORDER THAT BONDS MAY BE ISSUED AND ASSESSMENTS COLLECTED IN THE 1992-93 TAX YEAR FOR DEPOSIT INTO THE ESCROW ACCOUNT IN ADVANCE OF PROJECT CONSTRUCTION AS REQUIRED.

ON THE VERY CRITICAL SUBJECT OF DREDGED MATERIAL MANAGEMENT TO OURSELVES AND OTHER BAY AREA PORTS, WE EXPRESS OUR GRATITUDE TO THE SUBCOMMITTEE FOR ITS INCLUSION OF FEDERAL FUNDS IN FISCAL YEAR 1990 FOR THE DREDGED MATERIAL DISPOSAL MANAGEMENT PROGRAM (DMP) STUDY FOR SAN FRANCISCO BAY, ENCOMPASSING ALL AVAILABLE OPTIONS FOR DISPOSAL OF DREDGED MATERIAL, INCLUDING OCEAN, BAY AND UPLAND SITES. WE REQUEST THE SUBCOMMITTEE INCREASE FUNDING OF THIS INITIATIVE TO A LEVEL OF SEVEN MILLION DOLLARS IN FISCAL 1991. THIS WILL PROVIDE THE BASIS FOR THE DISTRICT'S PROPOSED LONG-TERM MANAGEMENT STRATEGY (LTMS) FOR SAN FRANCISCO BAY AREA DREDGED MATERIAL DISPOSAL. WE SUPPORT THE INITIATIVE OF THE DIVISION ENGINEER, GENERAL SOBKE, TO PROCEED IMMEDIATELY WITH THIS CRITICALLY NECESSARY ASSESSMENT FROM THE PERSPECTIVE OF ALL BAY AREA PORTS. HOWEVER, WE CONTINUE TO VIEW THE PROCESS OF DESIGNATION OF AN OCEAN DISPOSAL SITE AS A FEDERAL RESPONSIBILITY NOT SUBJECT TO MANDATORY COST-SHARING REQUIREMENTS.

WE DO SUPPORT THE PROPOSAL THAT THE STATE OF CALIFORNIA BECOME MORE INVOLVED WITH THE RESOLUTION OF THIS LONG-TERM DISPOSAL ISSUE OF CRITICAL IMPORTANCE TO THE FUTURE TRADE AND TRANSPORTATION POSTURE OF THE STATE THROUGH PARTICIPATION IN THIS STUDY EFFORT THROUGH THE PERFORMANCE OF CERTAIN RESEARCH TASK ELEMENTS.

UNFORTUNATELY, WE UNDERSTAND THAT THE STUDY IS NOT ANTICIPATED TO BE COMPLETED AND POTENTIAL OCEAN DISPOSAL AREAS IDENTIFIED UNTIL 1994. WE, THEREFORE, CONCUR IN THE DISTRICT

ENGINEER'S RECOMMENDATION AND ARE PROCEEDING WITH THE ACQUISITION OF AN UPLAND DISPOSAL SITE BY DECEMBER, 1990, IN ORDER TO MAINTAIN THE CURRENT ANTICIPATED PROJECT CONSTRUCTION SCHEDULE. WE WOULD EXPECT TO RECEIVE APPROPRIATE PROJECT CREDIT IN THE APPROPRIATE COST-SHARING RATIO APPLICABLE TO GENERAL NAVIGATION FEATURES (GNF) FOR OUR EFFORTS IN IDENTIFYING AND ACQUIRING SUCH A SITE THAT MAY BE OF ADDITIONAL BENEFIT BEYOND THE SCOPE OF OUR OWN CONSTRUCTION PROJECT.

WE WILL CONTINUE TO WORK TOWARDS THE DEVELOPMENT OF A POLITICAL CONSENSUS OF THIS ISSUE WITH FEDERAL, STATE, AND LOCAL AGENCIES AND ORGANIZATIONS TO ACHIEVE AN ACCEPTABLE SOLUTION TO THIS LONG-TERM ISSUE. WE STILL BELIEVE THAT ADDITIONAL OPTIONS AND DISPOSAL SITES, INCLUDING IDENTIFIED OCEAN DISPOSAL SITES, ARE NECESSARY TO RESOLVE THE LONG-TERM NEEDS OF THE BAY AREA THOUGH MAINTENANCE DREDGING OF EXISTING CHANNELS IN THE PORT OF RICHMOND CONTRIBUTE ONLY APPROXIMATELY ONE PER CENT BY VOLUME OF CURRENT DREDGED MATERIAL DISPOSED AT EXISTING SITES.

IN SUMMARY, AS THE LOCAL SPONSOR AND PRINCIPAL PROJECT PROPONENT, WE REAFFIRM OUR SUPPORT AND ARE PREPARED TO MOVE FORWARD IN PARTNERSHIP WITH THE CORPS TO EXECUTE THE PROPOSED PROJECT SCHEDULE FOR COMPLETION IN FISCAL YEAR 1993. WE HAVE MADE CONCRETE PROGRESS IN FULFILLMENT OF OUR PROJECT FINANCIAL RESPONSIBILITIES THROUGH THE CREATION OF A NAVIGATION BENEFIT ASSESSMENT DISTRICT. WE ARE PREPARED TO EXECUTE A FINAL L.C.A. TO SET THE STAGE FOR PROJECT CONSTRUCTION IN DECEMBER, 1992. WE ARE CURRENTLY UNDERTAKING THE IDENTIFICATION AND ACQUISITION OF A SUITABLE UPLAND DISPOSAL SITE FOR DREDGED MATERIAL DISPOSAL FROM PROJECT CONSTRUCTION. WE ASK THE SUBCOMMITTEE'S HELP TO ASSURE THE AVAILABILITY OF FEDERAL FUNDS IN FISCAL YEAR 1991 ENERGY AND WATER APPROPRIATIONS MEASURE, WITH THE ANTICIPATION OF THE REQUIREMENT FOR A LIKE AMOUNT IN THE FOLLOWING YEAR, TO COMPLETE THE NECESSARY PLANS AND STUDIES TO PERMIT CONTRACT AWARD AND COMMENCEMENT OF PROJECT CONSTRUCTION IN FISCAL YEAR 1993.

SAN LEANDRO BAY, CA, DREDGE MATERIAL DISPOSAL

STATEMENT OF DAVE KARP, MAYOR, CITY OF SAN LEANDRO, CA

Mr. LANGNER. Our next mayor is Dave Karp, city of San Leandro, CA.

Mr. KARP. Chairman Johnson, I have submitted to you the document which pretty much gives all the background on what we are talking about in the way of need for the city of San Leandro, so I will give you a brief synopsis of what we are talking about.

Every 4 years, the Jack D. Moltesta Federal Channel must be dredged at the cost of approximately $700,000 each cycle. We have operated a land disposal site through a license agreement for the past decade. This particular agreement expires on this last cycle and there is fear we may not be able to renew the license agreement.

This means two things: the dredging could become the area problem, adding to the already overburdened ability of the Army Corps to dispose of dredge materials. Earlier today, we heard testimony from Nancy Pelosi, who talked about San Francisco Bay and dredge spoil being at a crisis level, and I think she is absolutely correct. No. 2 is the potential of the San Leandro site would require bringing dredge materials to Alcatraz, which would increase the cycle costs from $700,000 to approximately $5 million each cycle.

We are asking for $1 million for the purchase of this dredge spoil site. This would be like an insurance policy. Once we have the dredge spoil site, which we will maintain and we will have in perpetuity for the Army Corps of Engineers, we will always be able to maintain a very low cost of disposal of the dredge spoil within our community.

I thank you for the opportunity of speaking before you. Thank you.

[The statement follows:]

STATEMENT OF DAVE KARP

My name is Dave Karp. I am the Mayor of the City of San Leandro, California. It is also my honor to serve as President of the Alameda County Mayors' Conference and on the Advisory Board of the United States Conference of Mayors. Thank you for the opportunity to appear before you to provide testimony on fiscal 1991 water resources appropriations, and to offer a proposal on behalf of the City of San Leandro regarding the future status of the dredge spoil disposal area for our marina, for which the subcommittee has provided longstanding and much appreciated support.

As the Chairman and Subcommittee Members know, the problem of dredge disposal is one of the most important facing the San Francisco Bay area, due to the ongoing need for significant dredging of Bay area ports and harbors. As part of a potential solution to this problem, I wish to suggest to the Subcommittee a possible option for assuring future availability of dredge spoil disposal capacity for our marina in an environmentally sound manner.

We believe that our proposal offers an opportunity for significant Federal savings in future dredge disposal operations, as an alternative to much higher potential costs for offshore disposal of dredge spoils.

Our 500-berth marina has 2.1 miles of channel which must be dredged periodically. Since 1973, the undeveloped, 114-acre disposal site has been used four times for deposit of a total of approximately 593,000 cubic yards of dredged sediments, under a temporary license from the owner of the property. The City of San Leandro has no permanent rights to continue use of our current site beyond expiration of the temporary license, which could add to the Bay area's disposal capacity problem.

We would request that the Subcommittee consider including an appropriation of $1,000,000 in fiscal 1991 for City purchase of 85-114 acres of the disposal area from its current owner, which would then be utilized for permanent dredge spoil disposal purposes. I emphasize that though Federal funds would be used to purchase the disposal area, title would remain with the City and all maintenance functions would be the responsibility of the City at no cost to the Federal government. Federal responsibility would be only for the continued work associated with the actual periodic dredging of the marina channel.

The site is currently operated pursuant to Corps of Engineers and California Regional Water Quality Control Board permit specifications. In an effort to assure continuation of environmentally sound operation of the San Leandro marina, and its status as a Federal facility, the City has performed significant improvements to the property and developed a Dredge Disposal Site Material Disposal Operational Plan. The plan will assure continued use of the present site in accordance with regulatory agency requirements.

The City of San Leandro has enjoyed an excellent working partnership with the Army Corps. We have presented our proposal to them and hope that their cooperation will be forthcoming.

Mr. Chairman, I am well aware that the problem of dredge spoils disposal in the San Francisco Bay area goes far beyond San Leandro. But I am hopeful that if our portion of the problem is solved with this Subcommittee's assistance, a significant contribution will be made towards an overall solution which must eventually be forthcoming.

Mr. Chairman, thank you again for your interest and consideration, and for your consistently strong support for our marina. If I can answer any questions or be of assistance to you or the subcommittee on this or other matters, please do not hesitate to contact me.

SANTA BARBARA, CA, MAINTENANCE DREDGING

STATEMENT OF SHEILA LODGE, MAYOR, CITY OF SANTA BARBARA, CA

Mr. **LANGNER**. Mayor Sheila Lodge, city of Santa Barbara.

Ms. **LODGE**. I would like to thank the committee for the support in the past of Federal maintenance dredging funds for the Federal channel in Santa Barbara. We now ask the committee to add to fiscal year 1991 appropriations $2 million in operations and maintenance money with which to replace dredged sand that has drifted back from the federally approved dump side into the Federal channel, endangering the movements of commercial and search and rescue vessels. Thank you.

Mr. **LANGNER**. Thank you.

We have next Mayor Larry Bagley, Oceanside.

OCEANSIDE HARBOR, CA, NAVIGATION PROJECT

STATEMENT OF LARRY M. BAGLEY, MAYOR, CITY OF OCEANSIDE, CA

ACCOMPANIED BY JAMES MANAS, CHIEF EXECUTIVE OFFICER, OCEANSIDE HARBOR DISTRICT, CA

Mr. **BAGLEY**. Mr. Chairman, Senator Wilson did touch briefly on the Oceanside sand bypass system. That is the main object of my testimony this morning. We are asking to be included in the President's budget $2.7 million so that we can put in phase 2 of this operation. The report that the Senator referred to has, as of today, been submitted to the Office of the Chief Engineer. So we are ready, willing, and able to go ahead with this project, which is really an investment in technology that can mean an awful lot to Santa Barbara and to the other cities on the coast, not only in California but throughout the United States. We do urge the support of this committee for the inclusion of that $2.7 million, which will complete the experimental phase of the project.

In addition to this, the President's budget has included $175,000 for the final planning and preconstruction engineering on a breakwater for the Oceanside Harbor. We are asking that the committee consider putting in an extra $82,000 in this. The Corps of Engineers has approved this. With the extra $82,000, they can complete the PE&D and we can then go forward to the authorization committee. We do appreciate past support of this committee and would appreciate what you can do for us on this one. Thank you, sir.

Mr. **LANGNER**. Mayor Bagley is accompanied by Jim Manas, chief executive officer of the Oceanside Harbor District.

[The statement follows:]

STATEMENT OF LARRY M. BAGLEY

The Honorable J. Bennett Johnston, Chairman

Subject: Experimental Sand Bypass, Oceanside, California

The City of Oceanside is requesting that Congress appropriate $2.7 million in the federal FY91 budget for the operation of the Oceanside sand bypass system. The sand bypass, which was directed by Congress in 1981, will ensure continual replenishment of Oceanside's beach, which has been seriously eroding as a result of the federal construction of the Camp Pendleton harbor during World War II. The bypass will also eliminate the need for frequent, costly maintenance dredging of Oceanside Harbor, which is done at full federal expense.

The initial phase of the sand bypass began operation in June, 1989. The Corps of Engineers has termed the initial operation as an unqualified success, and in fact, the pumps have worked even more efficiently than anticipated. A status report prepared by the Los Angeles District has found that the bypass system is more cost effective than conventional dredging. Upon installation of the fluidizers proposed in Phase II of the project, the cost effectiveness of the sand bypass is expected to be further enhanced.

Congress appropriated $2.6 million in FY90 for operation of the sand bypass and construction of Phase II of the project, installation of the fluidizers. However, the Corps of Engineers has withheld allocation of funds to begin construction of the fluidizers pending approval of the status report on the system by the Office of the Chief of Engineers and verification that funds will be available to operate the system in FY91.

The $2.7 million "capability" for the project in FY91 is proposed to be allocated as follows:

Operations and Maintenance = Engineering and Design; Supervision and Administration;	$1.0 million
Monitoring =	0.7 million
Construction =	1.0 million
Total	$2.7 million

The City of Oceanside requests that the Subcommittee further direct the Corps of Engineers to proceed with construction of Phase II (the installation of the fluidizers) of the sand bypass with the monies appropriated for that purpose in FY90. The City also requests that the Committee direct the Corps of Engineers to initiate construction on Phase III (the ultimate sand bypass system design) in FY91.

Congress previously has noted that Oceanside suffers severe economic losses due to the harbor shoaling and beach erosion problems. Operation of the sand bypass system, including the fluidizers, is needed immediately to provide continuous maintenance dredging for a vital military installation, Camp Pendleton Harbor, as well as a U. S. Coast Guard port of refuge. The appropriation will also prevent extensive deterioration of the existing installation. A lack of maintenance in FY1991 could make startup of the system at a later date cost prohibitive.

Data from the U. S. Army Corps of Engineers show that the sand bypass is a cost effective alternative to maintenance dredging. The technology developed through the Oceanside sand bypass experiment can lead to a reduction in federal maintenance dredging costs nationwide. The sand bypass will also spur the economic recovery of Oceanside's deteriorated shorefront, and allow a construction moratorium imposed by the Coastal Commission along a one-half mile stretch of coastline to be lifted. The Oceanside sand bypass has universal support from local residents, elected officials and down coast communities. We ask the Subcommmittee's support of an appropriation for this vital project.

Oceanside Harbor Maintenance Dredging
Oceanside, California

The Oceanside Harbor District, City of Oceanside, California, urges your support of the Administration's proposed appropriation of $65,000 in Fiscal Year 1991 to fund engineering and design for future maintenance dredging of the Oceanside Harbor entrance. Future dredging will be required to alleviate inner-harbor surge generated from shoaling at the harbor entrance and for safe navigation of the entrance channel.

In 1942, the Del Mar Boat Basin was constructed by the Department of the Navy at Camp Pendleton. The basin was constructed for training amphibious forces of the Marine Corps. Being built as a war-time measure, little consideration was given to the effect of the harbor structures on the surrounding physical environment. As a result, sedimentation in the harbor entrance and erosion of downcoast beaches was noticed almost immediately. Maintenance dredging of Oceanside Harbor should continue to be a Federal responsibility in accordance with the 1965 River and Harbor Act.

Oceanside Harbor serves as the entrance to USMC Camp Pendleton for military vessels and provides berthing for the Coast Guard cutter Point Hobart. More than one-quarter of harbor traffic is commercial fishing boats or military vessels. Without your support, many of the harbors of refuge which cannot support their dredging requirements, such as Oceanside, would be jeopardized.

I urge your support for continued Federal funding of maintenance dredging projects for small craft harbors and harbors of refuge.

This request is submitted on behalf of the Oceanside Harbor District and its governing body, the City Council of the City of Oceanside, sitting as the Harbor District Board of Directors.

Storm Damage Reduction and
Navigation Improvements
Oceanside Harbor, California

The Oceanside Harbor District, City of Oceanside, California, respectfully requests that the United States Congress appropriate $257,000 in Fiscal Year 1991 to fund completion of preconstruction engineering and design (PED), including plans and specifications, for the Oceanside Harbor Breakwater Modifications Project.

The Administration's proposed appropriation of $175,000 in Fiscal Year 1991 will not fund completion of PED. Delaying completion of the project will only increase costs. With the requested funding, PED can be completed in Fiscal Year 1991.

This project modifies the protective structures of Oceanside Harbor to reduce storm damages in the harbor and to improve the safety of the entrance channel for navigation.

Due to the configuration of the harbor entrance, waves from the south and southwest penetrate relatively uninterrupted through the main channel entrance and towards the inner harbor. Estimated average annual losses from the frequent repair and replacement of floats, piles and revetment, and damages to commercial and recreational craft in the harbor, are $517,000.

Waves also frequently break at the harbor entrance due to a combination of shoaling and high waves and results in hazardous navigation in the channel. This results in lost income to harbor operations of $87,000 annually and vessel damages in the entrance of $50,000 annually. Thirteen persons have died at Oceanside Harbor attempting to navigate in the entrance since 1963.

The recommended plan involves extending the north breakwater 300 feet, and constructing a 180 foot stub groin off of the south jetty. The plan also recommends expanding an advance maintenance area in the entrance channel in order to maintain the authorized depth of minus 20 feet MLLW. These modifications will correct the serious surge problem which causes extensive property damage within the Harbor and threatens the safety of both military, commercial and recreational boaters. This problem is particularly critical for the commercial vessels which use Oceanside Harbor as a home port on a year-round basis, and must rely on a safe port of refuge for their livelihood. We are currently expending over $8.6 million of public funds to rehabilitate the docking system and shoreline protection within the Harbor. Without correction of the breakwater defects, the lifespan of these improvements will be cut in half.

The U.S. Army Board of Engineers for Rivers and Harbors (BERH) has recommended approval and construction of this project. They have stated that the storm damage and navigation conditions at Oceanside Harbor are high priority problems and significant enough to warrant Federal involvement.

The project has a Benefit to Cost Ratio (BCR) of 1.5:1.0. The estimated total cost of the project is $4,970,000 of which $3,263,000 is federal and $1,707,000 is non-federal. We, as the local sponsor, are willing and financially able to provide the required cost sharing of the project and are anxious to move forward with the improvements.

The requested improvements will also protect the U.S. Army Corps of Engineers' Experimental Sand Bypass System, which sits completely unprotected in the mouth of the harbor.

In addition to commercial fishing facilities, the Oceanside Harbor also supports numerous commercial establishments, which rely on the safety and adequacy of boating facilities for their economic well-being. Oceanside Harbor is also the only port of refuge between Dana Point and San Diego, and is home base for the Coast Guard cutter Point Hobart. U.S. Navy vessels entering the USMC Camp Pendleton boat basin pass through the same breakwater entrance as boaters entering Oceanside Harbor.

These breakwater modifications, which are for navigation safety reasons and the prevention of wave-induced damage, are appropriate for Federal involvement. The Harbor District is willing to provide our fair share of project cost and requests that the U.S. Army Corps of Engineers, Civil Works Division, be directed to proceed with the project.

I urge your support to ensure that Oceanside Harbor and USMC Camp Pendleton boat basin have a safe entrance.

This request is submitted on behalf of the Oceanside Harbor District and its governing body, the City Council of the City of Oceanside, sitting as the Harbor District Board of Directors.

RANCHO PALOS VERDES, CA, SHORELINE PROJECTION

STATEMENT OF JOHN TAGGART, MAYOR PRO TEM, CITY OF RANCHO PALOS VERDES, CA

Mr. **LANGNER**. Next we have Mayor Pro Tem John Taggart, Rancho Palos Verdes.

Mr. **TAGGART**. Mr. Chairman, I thank the committee for previous appropriations. You have made it possible for the secretary to conduct a coastline reconnaissance study at Portugese Bend in the city of Rancho Palos Verdes.

Tidal action makes this project necessary. The city must depend on the Corps to begin a feasibility study of this worthy public works project. Mr. Chairman, this landslide poses a serious threat to the public interest: several hundred acres of marine environment and considerable public property. The city council deeply appreciates the support of the committee to solve this problem. Thank you.

Mr. **LANGNER**. Next, we have the chairman-elect of C–MANC, Dan Allen, who is chief harbor engineer, Port of Long Beach.

LOS ANGELES-LONG BEACH HARBORS, CA, NAVIGATION IMPROVEMENTS

STATEMENT OF E.D. ALLEN, CHIEF HARBOR ENGINEER, PORT OF LONG BEACH, CA

Mr. **ALLEN**. Mr. Chairman, thank you very much for this opportunity. I have submitted a written statement for the record, and I would like to summarize. The development projects in the Port of Long Beach and Los Angeles, which is a combined program, is very critical, we think, to the U.S. economy, both from customs receipts and the trade imbalance. We are after the last year of the feasibility study funding in fiscal year 1991. We have been doing this since 1964 and we would like to get this last year's funding so we can come to a conclusion on what exactly the Federal interest is so that we can get on and construct the project. We thank you very much for this opportunity.

[The statement follows:]

STATEMENT OF E.D. ALLEN

I am E. D. Allen, Chief Harbor Engineer for the Port of Long Beach, California. I have been authorized by the Board of Harbor Commissioners of the City of Long Beach to represent the Port of Long Beach in regard to appropriations for the Los Angeles-Long Beach Harbors Navigation Study, the Los Angeles and Long Beach Harbors Model Study programs.

The Ports of Long Beach and Los Angeles, in cooperation with the Corps of Engineers, have developed a long-range master plan, referred to as the 2020 Plan, which demonstrates the need for new navigation channels and additional landfill development. This document is a product of the Los Angeles-Long Beach Harbors Navigation Study for future channels and landfill development, which has been in process since 1964 by the U. S. Army Corps of Engineers. The Water Resources Development Act of 1986 authorizes construction of this master plan project upon completion of a favorable Chief's Report. The first step in this process is a feasibility report, which is nearing completion. The Ports and the Corps will complete the feasibility study with a Chief of Engineers Report and initiate planning, engineering and design (PED) in fiscal year 1991, including physical and numerical model testing and other studies needed for the permitting process. It is, therefore, urged that the Committee approve an appropriation of $3,250,000 for fiscal year 1991 to complete the feasibility study and to initiate PED.

The Port of Long Beach has started the first phase of the 2020 Plan with construction of its Pier J expansion project, which includes dredging the Long Beach Main Channel to at least a -76' depth. This increment of dredging is being evaluated for Federal interest in the feasibility study because it permits deeper draft crude petroleum vessels to call at the Port of Long Beach. The Water Resources Development Act of 1988 authorized consideration of credit for any work constructed by the non-Federal interest that is associated with such a project which is later recommended by the Chief of Engineers and approved by the Secretary. Therefore, if it is determined that the dredging of Long Beach Main Channel is part of the recommended Federal project, Congress is respectfully urged to credit the Port of Long Beach an amount equal to the Federal share of the cost for such work. The Federal share is estimated at $32,800,000, or 16% of the overall Pier J expansion project cost.

The Water Resources Development Act of 1976, Section 123, authorized the Chief of Engineers to operate and maintain the Los Angeles-Long Beach Harbor Hydraulic Model at the U. S. Army Corps of Engineers Waterways Experiment Station in Vicksburg, Mississippi as part of the Los Angeles and Long Beach Harbors Model Study. In the President's budget for fiscal year 1990, $930,000 was included and the funds have been appropriated to upgrade that model, including accumulating data on tidal circulation, wave energy, and ship motion in the San Pedro Bay area. This model study is essential to satisfy regulatory agency requirements and to plan and engineer the expansion of the port complex and associated navigation channels, as detailed in the Port's 2020 Plan. Also, continuation of the wave data acquisition is essential to accurately estimate the frequency of extreme wave energy events. These modeling improvements provide for state of the art capabilities that can be used on many harbor complexes. The Port, as the local agency, is agreeing to assist in this effort by providing necessary support personnel and equipment for the maintenance of the system. The Corps of Engineers advises that this study must be funded for consecutive years if useful results are to be obtained. Fiscal year 1991 would be the final effort in the five-year program. Therefore, Congress is respectfully requested to appropriate $760,000 for fiscal year 1991 to continue this modeling study.

Attached hereto is Resolution No. HD-1494, adopted by the Board of Harbor Commissioners of the City of Long Beach on March 12, 1990, which contains data relating to the background of the Los Angeles-Long Beach Harbors Navigation Study, hydraulic modeling, and other related matters. The resolution stresses the need for federal assistance in developing economic, technical and environmental background information essential to the design and permitting of Port facilities vital to regional and national interests.

Agencies benefiting from these projects in San Pedro Bay include, but are not limited to, the City of Long Beach, the Ports of Long Beach and Los Angeles, the County of Los Angeles, the State of California, the United States Navy and Coast Guard, the United States Customs Service, and various state and federal environmental agencies.

Through the years, the Port of Long Beach and the U. S. Army Corps of Engineers have worked closely in bringing into reality the 2020 Plan with the completion of the Los Angeles-Long Beach Harbor feasibility study and enhancement of the model. We believe these projects are vital to the development of our nation's water resources. We kindly ask that Congress continue to support these projects in fiscal year 1991 by appropriating the requested funds.

Thank you for permitting me the privilege of this presentation.

RESOLUTION NO. HD-1494

A RESOLUTION OF THE BOARD OF HARBOR COMMISSIONERS OF THE CITY OF LONG BEACH, CALIFORNIA, REQUESTING THE CONGRESS OF THE UNITED STATES TO APPROPRIATE FUNDS TO CONTINUE THE LOS ANGELES-LONG BEACH HARBORS NAVIGATION STUDY AND THE LOS ANGELES AND LONG BEACH HARBORS MODEL STUDY PROGRAMS, BOTH RELATING TO IMPROVEMENTS IN SAN PEDRO BAY AND CONDUCTED BY THE UNITED STATES ARMY CORPS OF ENGINEERS, AND MAKING A DETERMINATION RELATING THERETO.

WHEREAS, the Ports of Long Beach and Los Angeles in San Pedro Bay, California, are two of a limited number of sites on the West Coast of the United States which possess the potential for deep water ports as recommended in the West Coast

Deep Water Port Facility Study conducted by the United States Army Corps of Engineers; and

WHEREAS, the Ports of Long Beach and Los Angeles have a record of both physical and fiscal growth to the extent that together the two are presently handling over 135 million metric revenue tons of cargo annually (fiscal year 1989), which cargo is valued at over 95 billion dollars; and

WHEREAS, the growth and activity of the Ports of Long Beach and Los Angeles have a significant regional and national economic effect; and

WHEREAS, in excess of 2.8 billion dollars in federal revenues were collected as United States Customs duties on foreign imports passing through the Ports of Long Beach and Los Angeles during the fiscal year ending September 30, 1989; and

WHEREAS, both Ports are now, and are increasingly becoming, hard-pressed to provide facilities to meet the needs of the shipping industry, and to that end are conducting extensive studies, in conjunction with federal studies, to determine navigational, transportation, and environmental requirements necessary to provide economic and adequate surge-free berthing and cargo handling facilities; and

WHEREAS, all existing land in the Port of Long Beach which can be developed for shipping operations has been utilized and to meet the needs of the following decade, the design, permitting and construction of new lands must continue; and

WHEREAS, continuation of the studies currently underway by the United States Army Corps of Engineers, consisting of the Los Angeles-Long Beach Harbors Study originally requested by the Committees on Public Works of both the House and the Senate, and the Los Angeles and Long Beach

Harbors Model Study programs, including maintenance and operation of the San Pedro Bay Hydraulic Model at Vicksburg, Mississippi, as authorized by Section 123 of the Water Resources Development Act of 1976, is urgently needed for use in the design and permitting processes for future landfills for Port Development; and

WHEREAS, it is necessary, as part of the Los Angeles and Long Beach Harbors Model Study programs, to upgrade existing hydraulic models to assure adequate water quality and surge-free berthing, which includes obtaining long-term data on the hydraulic regime in San Pedro Bay by conducting a model enhancement program using self-contained recording instruments to determine currents and energy entering the Bay; and

WHEREAS, the Board of Harbor Commissioners of the City of Long Beach, as a properly constituted and financially responsible local agency, by its Resolution No. HD-890, adopted August 3, 1965, expressed its intent to enter into such agreements as may be reasonably required to further federal projects for the development and improvement of Long Beach and Los Angeles Harbors; and

NOW THEREFORE, the Board of Harbor Commissioners of the City of Long Beach resolves as follows:

Section 1. That the Congress of the United States be, and is hereby, respectfully requested to appropriate simultaneously the funds necessary for the Chief of Engineers, United States Army Corps of Engineers, to continue the Los Angeles-Long Beach Harbors Navigation Study.

Sec. 2. That the Congress of the United States be, and is hereby, respectfully requested to appropriate simultaneously the funds necessary for the Chief of Engineers, United States Army Corps of Engineers, to maintain the San

Pedro Bay Hydraulic Model at the Waterways Experiment Station at Vicksburg, Mississippi, as part of the Los Angeles and Long Beach Harbors Model Study programs.

Sec. 3. That the Congress of the United States be, and is hereby, respectfully requested to appropriate simultaneously the funds necessary for the Chief of Engineers, United States Army Corps of Engineers, to continue the model enhancement program of San Pedro Bay to obtain prototype wave data and develop improved water quality and ship motion models, essential to long-range planning and design, also as part of the Los Angeles and Long Beach Harbors Model Study programs.

Sec. 4. That the Acting Executive Director of the Long Beach Harbor Department be, and he is hereby, directed to send copies of this resolution to the United States Senators and to Members of the House of Representatives from California, with a letter requesting their assistance in presenting this resolution before the proper Congressional committees.

Sec. 6. That the Acting Executive Director of the Long Beach Harbor Department be, and he is hereby, further directed to send copies of this resolution to the President of the United States; the Director, Office of Management and Budget; the Secretary of the Army; the Chief of Engineers, the Board of Engineers for Rivers and Harbors, the Division Engineer-South Pacific Division and the District Engineer-Los Angeles, all of the United States Army Corps of Engineers; and to such other interested persons as he may deem appropriate.

The Secretary of the Board shall certify to the passage of this resolution by the Board of Harbor Commissioners of the City of Long Beach, shall cause the same to be posted in three (3) conspicuous places in the City of Long Beach, and shall cause a certified copy of this resolution to be filed forthwith with the City Clerk of the City of Long Beach and it shall thereupon take effect.

I hereby certify that the foregoing resolution was adopted by the Board of Harbor Commissioners of the City of Long Beach at its meeting of March 12, 1990 by the following vote:

Ayes: Commissioners Hauser, Friedland, Langslet, DuVall
Noes: Commissioners None
Absent: Commissioners Talin
Not Voting: Commissioners None

Secretary

STATEMENT OF VERN HALL, CHIEF HARBOR ENGINEER, PORT OF LOS ANGELES, CA

ACCOMPANIED BY BRUCE SEATON, PORT OF LOS ANGELES, CA

Mr. LANGNER. Thank you, Dan. Next we have chief harbor engineer for the Port of Los Angeles and our treasurer of C–MANC, a very important man to me, Vern Hall.

Mr. HALL. Thank you, Bob.

Mr. Chairman, I will just basically echo what my counterpart at Long Beach said. We also have a prepared statement for the record and urge the finalization of the feasibility study. We know it is going to be complete this year and we think it will demonstrate a significant Federal interest in our harbors.

We are now the largest port complex in the United States, and it is a direct result of previous Federal projects. So clearly, there are benefits to the United States in this, including some $2.8 billion collected last year through the two ports of San Pedro Bay in customs revenues.

Senator JOHNSTON. You mean in capacity, in tonnage, or in dollars?

Mr. HALL. Just about any criterion you want, Senator. I mentioned that the customs revenue last year through the two ports, excluding the airport and the other elements of the Los Angeles Customs District, was $2.8 billion. So we are a big contributor, and we think any investment the Federal Government can make is a good one. Thank you for your time.

Senator JOHNSTON. You are a busy man.

Mr. Langner. Mr. Hall is accompanied by a number of people from the Port of Los Angeles and the county. Do you want to mention them?

Mr. Hall. I am sorry. I am actually accompanied by a number of people who are all at the American Association of Port Authorities. I have with me Bruce Seaton, who is my counterpart in charge of construction. Thank you.

[The statement follows:]

STATEMENT OF VERNON E. HALL

Mr. Chairman and Members of the Subcommittee:

My testimony today, on behalf of the Port of Los Angeles, supports the continuation of the federal fiscal role in the implementation of a major navigation improvement and port development program for the San Pedro Bay. The program, known as the 2020 Program, was jointly undertaken by the Ports of Los Angeles and Long Beach and the U.S. Army Corps of Engineers as first authorized by Congressional resolution in the 90th Congress. This farsighted action accurately anticipated the phenomenal growth of the San Pedro Bay ports which are today ranked as the second largest containerized port complex in the world. The Port of Los Angeles, alone, has recently achieved the status of number one container port in the United States.

The 2020 Plan outlines the improvements and expansion that will be required for the ports to keep pace with the projected increase in world commerce into the 21st century. Implementation of the initial phase of the 2020 Plan is authorized in Section 201(b) of the Omnibus Water Resources Development Acto 1986 (P.L. 99-662) and further sanctioned in Section 104 of the Water Resources Development Act of 1988 (P.L. 100-371).

Success of the program is dependent on the continued federal support of two essential and on-going studies. The first study, referred to as the Los Angeles-Long Beach Harbor Model Study, is a tidal and harbor resonance study of the San Pedro Bay being conducted by the Corps of Engineers at its Waterways Experiment Station in Vicksburg, Mississippi. We are currently in the fourth year of this five-year study effort. The second study is the Feasibility Study for Phase I of the 2020 Plan, which will be completed by the Los Angeles District of the Corps of Engineers in early FY91.

The Harbor Model Study is a long-term harbor response, ship motion and tidal circulation study, designed to collect data for the evaluation of the ports' responses to the environmental changes in the harbors created by the channel deepening and land reconfigurations as called for in the 2020 Program. Changes in tidal circulation and harbor channel flushing must also be examined to determine the possible effects that channel deepening and landfill expansion will have on water quality in both ports and the surrounding vicinity.

A portion of the Harbor Model Study funds that have already been appropriated will be expended on the physical model itself. The upgrade of the physical model is necessary to insure that the numerical analyses are validated and that they reflect state-of-the-art modeling techniques and will produce the most accurate study data possible.

As regards next year's funding for the Harbor Model Study, the Corps of Engineers' FY91 budget request includes $760,000 in operation and maintenance (O&M) funds for its continuation. This proposed amount will be sufficient to keep the study on schedule as outlined in the three-party Memorandum of Understanding (MOU) that was entered into on June 26, 1987 by the Ports of Los Angeles and Long Beach and the Corps of Engineers. The requested amount is also consistent with the $930,000 that was appropriated in the FY90 Budget, which is expected to be fully expended this year. The FY90 Budget appropriation continues to be expended on wave data collection, prototype and physical model validations of numerical models on harbor circulation and water quality as well as harbor resonance.

The Feasibility Study, to be completed in FY91, needs an additional and final appropriation of $250,000. The study evaluates and quantifies the national transportation cost savings of the channel deepening projects which must also meet strict engineering and environmental tests before they can be approved.

We are confident that the study will be approved by the Chief of Engineers, and that we will soon begin the planning, engineering and design (PE & D) segment of Phase I in FY91, while the Harbor Model Study continues to provide essential design data and parameters. We, therefore, strongly urge that your Subcommittee include $3,000,000 for that purpose in your Appropriations Bill for FY91. This money will be primarily used for geotechnical investigations, engineering analyses and cost estimates.

In the spirit of partnership, as evidenced in the MOU and in the interest of our meeting the regional and national shipping demands that are outlined in the 2020 Program, the Port of Los Angeles respectfully requests that your Subcommittee appropriate the full $760,000 that is contained in the Corps' FY91 Budget Request, and that you include an additional $3,250,000 for completion of the Feasibility Study and the commencement of the PE & D segment of Phase I of the 2020 Plan.

The Ports of Los Angeles and Long Beach have long valued the vision of this Subcommittee in appropriating scarce federal resources to harbor and navigation projects such as ours. We view this commitment to the expansion of water-borne transportation as a demonstration by the federal government of its support for the nation-wide economic development in which the nation's port authorities play an important role.

It is not coincidence that the U.S. Customs revenue collections at the San Pedro Bay ports is the largest amount collected at any of the major U.S. ports. A total of $2.8 billion was collected in FY89, and this amount will certainly continue to grow in proportion to our ability to keep pace with the rapid increase in foreign trade that is projected for our region and the nation.

Thank you Mr. Chairman for allowing me to testify and to inform you of the progress we are making toward the goals that we have identified.

OAKLAND HARBOR, CA, DREDGE MATERIAL DISPOSAL

STATEMENT OF GERALD POPE, DIRECTOR OF TRADE RELATIONS, PORT OF OAKLAND, CA

ACCOMPANIED BY JOHN GLOVER, DIRECTOR OF PLANNING, PORT OF OAKLAND, CA

Mr. LANGNER. We have another former chairman of the board of C-MANC, Jerry Pope, director of trade relations for the Port of Oakland.

Jerry.

Mr. POPE. Senator Johnston, I want to thank you for the past considerations that you have granted to the Port of Oakland. The appropriations have allowed our projects to proceed and we are looking forward to a continuance of that process.

There is one thing that I have submitted and made a part of my statement, and that is a special appropriation for a $5.4 million fund to continue and complete the long-term management study for the disposal of dredge sediment in the San Francisco Bay. That is a very important key to the dredging problem that we are experiencing at the Port of Oakland, and we ask your special consideration of that.

I have a statement that I am going to submit into the record on behalf of our chief executive officer, Nolan Gimpel, and I also have with me John Glover, director of planning for the Port of Oakland. We appreciate your consideration. Thank you.

Mr. **Langner**. This issue of dredging and dredging sediment disposal is a very key one, a crucial one, as you know. San Francisco, and California in general, have been on the cutting edge of the environmental movement. In the first paragraph on page 3 of my testimony are references. This would not only serve well the needs of the bay region and California commerce, but it is a prototype for some other problem areas that are emerging in other harbors.

[The statement follows:]

STATEMENT OF GERALD POPE

I want to thank you for the opportunity of submitting written testimony in support of appropriations that are under consideration by the Senate Subcommittee on Energy and Water Development. These appropriations as recommended in the President's budget provide $4.4 million for continuing construction in the Oakland Inner and Outer Harbor channels and also provide $2.09 million for annual operation and maintenance related to Oakland harbor channels. We particularly appreciate past actions that have been taken by you and the Senate committee with respect to ongoing appropriations that have now brought us to the point where actual construction of the Oakland channel deepening can commence.

The Oakland Inner and Outer Harbor channel improvements are a federally authorized project undertaken by the U.S. Army Corps of Engineers. The project was authorized for construction by the Water Resources Development Act of 1986, 99th Congress, Second Session, as a part of Public Law 99-662.

The project will deepen both channels to -42 feet below mean lower low water (MLLW) and provides additional navigational improvements. Approximately 7 million cubic yards of material must be dredged to provide the necessary channel improvements.

The Corps estimates the benefits of the project to the economy of the United States will be approximately $6.5 million annually. Benefits of the project are derived from:

A. The use of larger vessels with lower operation cost and lower fuel consumption per ton of cargo carried.

B. Elimination or reduction of tidal delays.

C. Improvement in navigation vessel safety and reduction in possibility of collisions or groundings.

The Port of Oakland as the local cooperating agency for the channel improvements is fully committed to meet its financial obligations as required under the Water Resources Act of 1986 with the balance of the project cost to be funded from federal appropriations.

In order to satisfy the requirements of our shipping lines, a decision was made to accelerate construction of the first phase of the Inner Harbor part of the project. On the 28th of April, 1988, the Port of Oakland entered into an agreement with the Secretary of the Army under Section 215 of Public Law 90-483 (Section 215, Agreements) to receive credit towards reimbursement obligations for the cost of work accomplished by the Port in deepening the Inner Harbor channel to -38 feet MLLW and providing for an 1,100 foot ship turning circle. Approximately 500,000 cubic yards of material is planned to be dredged in this first phase. Construction was started in May of 1988, but was soon stopped by a State court order which prevented disposal of the material at a designated ocean site. The Port is investigating alternative disposal sites for approximately 440,000 cubic yards of this material. We expect to be under construction on this phase of the project by late 1990.

The Corps of Engineers is also proceeding with further study and selection of sites for disposal of dredged material from the final phases of construction of the project. The current schedule calls for the Oakland channel project as described in its authorization to be completed by July, 1994.

With regard to this investigation of CMANC recommendation has been made for an appropriation of $5.47 million to complete the study and I respectfully request your support of this recommendation.

The appropriations under consideration today will permit the Corps of Engineers to complete necessary studies concerning the project. These studies will include investigations into a suitable disposal site, or sites, to receive 6.5 million cubic yards of dredge material and will also update other necessary Corps, engineering and economic studies and environmental studies leading to preparation of a Supplemental EIS for the project, prior to the commencement of final phases of construction.

As I have earlier stated, we appreciate the cooperation of this committee and urge your approval of the appropriations requests as submitted.

SAN FRANCISCO BAY TO STOCKTON SHIP CHANNEL, CALIFORNIA

STATEMENT OF ALEXANDER KRYGSMAN, PORT DIRECTOR, PORT OF STOCKTON, CA

ACCOMPANIED BY:

OSCAR KLEINFELD, PORT COMMISSIONER, PORT OF STOCKTON, CA
PHILLIP WALLACE, PORT COMMISSIONER, PORT OF STOCKTON, CA

Mr. LANGNER. A long-term witness here whom you may recognize is the former past chairman of our board and the port director of the Port of Stockton, Alexander Krygsman.

Mr. KRYGSMAN. Mr. Chairman, thank you for the opportunity to testify. I have submitted a written statement for the record. I also have with me two members of our board, Commissioner Bert Kleinfeld and Commissioner Phil Wallace over on the side there.

I also brought, as has become a tradition, a colorful publication of the Port of Stockton. I want to draw your attention to page 22 of that colorful publication that shows after the dredging of the channel was finished in 1986 how our tonnage has moved up, and I want to thank you for supporting that project. It will just prove to you how successful that was. It is right above that beautiful picture of the Port of Stockton with the mountains in the background. It looks like we are in Alaska, but that was an actual picture taken this winter with the snow on Mount Diablo.

COST-SHARING ISSUES

I also want to make another point. The administration is more and more talking about cost sharing in maintenance as well as construction. They call that participation, but cost sharing by any other name is still cost sharing. One of the problems that the ports are going to experience with this, and the Port of Stockton has already experienced it in its construction cost, is that the local cost sharing has to come from somewhere. It has to come from the end user. We do not have a chest of gold at the Port of Stockton, any more than the Federal Government has one, that is bottomless and we can just pull money out of. So we have to be able to pass on these costs, these local participation or cost-sharing costs to the end user. We are not the end user; we are just the intermediary.

There has to be legislation introduced that will clearly authorize us to do that. At this time, it is not completely clear that we have such authorization, although other ports are doing it. Several of the users of the channel are telling us, "If you want to collect it, sue me." The cost of litigation would exceed the very modest charges that we are making for our share of the local participation and, therefore, I would ask that you support the introduction of such legislation that will once and for all clearly authorize the ports and local sponsors to pass on such charges so that they can generate the funds to participate in these projects. Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF ALEXANDER KRYGSMAN

Mr. Chairman:

I am Alexander Krygsman, Port Director of the Port of Stockton in Stockton, California.

The San Francisco Bay to Stockton Ship Channels Project is an authorized project, presently under construction.

The Port of Stockton is primarily a bulk port that serves industry and agriculture in the San Joaquin Valley in California, and the bulk imports and exports of the Western States, including the coal areas of these States.

The Port of Stockton recognized as far back as 1952 that deeper channels would be needed for the movements of bulk cargoes and requested the Corps of Engineers to deepen the channel in 1952. Coal, grain, fertilizers and many other bulk materials require deeper channels to serve the larger bulk carriers.

The Nation needs ports that can handle larger, more economical and more fuel-efficient vessels close to the production areas, both agricultural and industrial, to conserve energy.

The Port of Stockton is such a port.

The dredging of the Stockton channel portion has been completed. We have provided with this Statement, for your information, a copy of the Port of Stockton's most recent annual report showing substantial increases in cargo since the dredging of the Stockton channel was completed. The project, as far as it is completed, is certainly paying off.

We urge you to appropriate the same amount as contained in the proposed President's budget to continue the balance of the Project. We also strongly urge that adequate funding be appropriated to maintain the channels so that the benefits may continue to accrue.

I wish to state again, for the record, that the Port of Stockton is in support of deepening the Sacramento channel.

Mr. **Langner**. Thank you, Alex.

Our next witness is John Sulpizio, port director, Port of Sacramento.

John.

Sacramento River Deepwater Ship Channel, California

STATEMENT OF JOHN SULPIZIO, ACTING DIRECTOR, PORT OF SACRAMENTO, CA

Mr. **Sulpizio**. Mr. Chairman, it is an honor to share some remarks with you this afternoon. While I speak to you for the first time, the Port of Sacramento's project is an old friend of both of us. In that vein, I would like to thank our Senators, Alan Cranston and Pete Wilson, for their support and advocacy of this project.

The project is a deepening effort from 30 to 35 feet. It is in the second of a 5-year construction cycle. Of course, we support and encourage the funding of the administration's budget request. Today, I would like to raise two additional and specific items which affect the implementation of that project.

The first has to do with the relocation of utilities. As you know, the responsibility for utility relocation shifted under the 1986 act to the non-Federal local sponsor. I think at the time Congress assumed that there was the existence of adequate authority under State law to enforce necessary relocations. Such was not the case in California.

Accordingly, what we would like to do is request that the subcommittee instruct the Corps that where such authority is inadequate, the Corps enforce existing permit conditions under the Rivers and Harbors Act, section 10, permits in which utilities have consented to undertake necessary relocations in the interest of these navigation projects. In the alternative, if such is not possible, permit at least the non-Federal sponsor to enforce these same provisions.

The second area of concern that we have has to do with section 916 of the act, which allows for the creation of a repayment district. We would like to take the provisions of the law and work them in tandem with the California assessment mechanism. Unfortunately, no guidance has been issued by the Corps to implement this section of the law. We are currently reviewing the utility of applying it and complementary provisions subsequently adopted in Ohio will allow us to do that. We request that the subcommittee direct the Assistant Secretary of the Army to review the provision and apply it to navigation projects.

We have submitted more lengthy testimony and more detailed provisions to allow you to understand our predicament. Thank you.

Mr. **Langner**. Thank you, John.

[The statement follows:]

STATEMENT OF JOHN SULPIZIO

I AM JOHN SULPIZIO, ACTING DIRECTOR OF THE PORT OF SACRAMENTO. I APPEAR ON BEHALF OF THE SACRAMENTO-YOLO PORT DISTRICT ESTABLISHED BY SPECIAL ACT OF THE CALIFORNIA LEGISLATURE THROUGH ITS APPOINTED COMMISSION. THE DISTRICT IS THE LOCAL SPONSOR OF THE SACRAMENTO RIVER DEEP WATER SHIP CHANNEL NAVIGATION PROJECT AUTHORIZED IN THE WATER RESOURCES DEVELOPMENT ACT OF 1986 (PUBLIC LAW 99-662). I AM ACCOMPANIED BY LAWRENCE G. MALLON, A CALIFORNIA ATTORNEY AND SPECIAL COUNSEL TO THE PORT.

THE PORT COMMISSION RECOGNIZES AND EXPRESSES ITS GRATITUDE TO OUR TWO SENATORS, THE HONORABLE ALAN CRANSTON AND THE HONORABLE PETE WILSON, AND TO YOU, MR. CHAIRMAN AND THE OTHER MEMBERS OF THIS SUBCOMMITTEE AND STAFF FOR THEIR CONTINUING EFFORTS IN FUNDING THIS NAVIGATION PROJECT OF CRITICAL IMPORTANCE TO THE FUTURE DEVELOPMENT OF THE PORT OF SACRAMENTO.

THE COMMISSION SUPPORTS THE PRESIDENT'S BUDGET REQUEST WHICH CONTAINS $3,900,000 TO FUND THE THIRD IN A FIVE YEAR $45 MILLION CONSTRUCTION PROJECT --NOW IN IT SECOND YEAR-- TO DEEPEN THE 46.5 MILE MAN-MADE CHANNEL UPRIVER FROM SAN FRANCISCO BAY COMPLETED IN 1963 FROM THIRTY TO THIRTY-FIVE FEET IN DEPTH.

TIMELY COMPLETION OF THE CURRENT PROJECT IS NECESSARY IN ORDER TO:

FIRST, SERVE OUR EXISTING CUSTOMER BASE;

SECOND, EXPAND PORT CAPACITY TO SERVE A RAPIDLY GROWING REGIONAL ECONOMY; AND

THIRD, IMPROVE CHANNEL DEPTH CAPACITY TO ACCOMMODATE SEVENTY PER CENT OF THE WORLD BULK FLEET FROM TWENTY PER CENT CURRENTLY.

UNDER THE 1986 ACT THE PORT OF SACRAMENTO IS REQUIRED TO CONTRIBUTE 25% OF THE COST OF THE GENERAL NAVIGATION FEATURES OF THE PROJECT, DREDGED MATERIAL DISPOSAL AREAS, AND IS RESPONSIBLE FOR THE TIMELY COMPLETION OF NECESSARY UTILITY RELOCATIONS. I MIGHT NOTE THAT UNLIKE SOME PORT PROJECTS, OUR PROJECT INVOLVES DISPOSAL OF DREDGED MATERIAL ON SITE AND HAS NOT BEEN DELAYED FOR ENVIRONMENTAL REASONS.

WE HAVE MET OUR FINANCIAL RESPONSIBILITY TO DATE WITH A COMBINATION OF NET RETAINED EARNINGS AND BORROWING AGAINST CAPITAL ASSETS. TO FURTHER SECURE OUR FISCAL POSITION IN THE PROJECT, WE HAVE ALSO PLEDGED PORT LAND AS COLLATERAL. CLEARLY WE WOULD NOT WANT TO LOSE THE COLLATERALIZED ASSETS WITHOUT EXHAUSTING OTHER AVAILABLE ALTERNATIVES.

I BRING TWO ANCILLARY ISSUES TO THE SUBCOMMITTEE'S ATTENTION AND REQUEST THE SUBCOMMITTEE CONSIDER INCLUDING IN THE APPROPRIATIONS BILL EITHER A DIRECTIVE TO THE ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS, OR APPROPRIATE REPORT LANGUAGE, AS THE SUBCOMMITTEE CONSIDERS APPROPRIATE IN EACH INSTANCE.

UTILITY RELOCATIONS

FIRST, SECTION 101(a)(4) OF THE 1986 ACT REQUIRES A NON-FEDERAL INTEREST TO PERFORM OR ASSURE THE PERFORMANCE OF ALL RELOCATIONS OF UTILITIES NECESSARY TO CARRY OUT THE PROJECT, EXCEPT THAT IN THE CASE OF A DEEP-DRAFT HARBOR AND IN THE CASE OF A PROJECT CONSTRUCTED BY NON-FEDERAL INTERESTS UNDER

SECTION 204, ONE HALF OF THE COST SHALL BE BORNE BY THE OWNER OF THE FACILITY BEING RELOCATED AND ONE HALF OF THE COST OF EACH SUCH RELOCATION SHALL BE BORNE BY THE NON-FEDERAL INTERESTS.

THE HOUSE-SENATE CONFERENCE REPORT ON THE LEGISLATION AT PAGE 205 GOES ON TO STATE THAT EXCEPT AS PROVIDED IN SECTION 204, THIS SECTION IS NOT INTENDED TO PLACE ANY NEW OBLIGATION ON NON-FEDERAL INTERESTS TO PAY FOR RELOCATIONS NECESSITATED BY COMMERCIAL CHANNEL OR HARBOR DEVELOPMENT INVOLVING DEPTHS OF FORTY-FIVE FEET OR LESS. THE CONFERENCE REPORT MAKES FURTHER PERMISSIVE REFERENCE IN STATING IF THE NON-FEDERAL INTEREST HAS THE AUTHORITY TO COMPEL THE OWNER OF THE FACILITY TO PAY RELOCATION COSTS, IT MAY DO SO.

WE SUBMIT CONGRESS ASSUMED THE EXISTENCE OF ADEQUATE AUTHORITY UNDER STATE LAW TO ENFORCE NECESSARY RELOCATIONS. ADEQUATE AUTHORITY FOR THIS PURPOSE DOES NOT EXIST IN CALIFORNIA.

THE SACRAMENTO RIVER PROJECT INVOLVES SEVERAL PUBLIC AND PRIVATE UTILITY RELOCATIONS AT A CURRENTLY ESTIMATED RELOCATION COST OF APPROXIMATELY EIGHT MILLION DOLLARS. WE ARE NOW AT A POINT IN THE CONSTRUCTION SCHEDULE THAT THE PLANNING, ENGINEERING, AND SCHEDULING OF UTILITY RELOCATIONS SHOULD COMMENCE BUT TO DATE THIS HAS BEEN DELAYED AND OVERSHADOWED BY THE ISSUE OF FINANCING THE NECESSARY RELOCATIONS.

IN AN ATTEMPT TO RESOLVE THIS MATTER WITHOUT SEEKING CORPS INTERVENTION WE HAVE RESEARCHED APPLICABLE CALIFORNIA

AND FEDERAL LAW FOR THE EXISTENCE OF ENFORCEMENT AUTHORITY AND APPLICABLE LEGAL PRECEDENT. OUR RESEARCH HAS LED US FULL CIRCLE TO THE NECESSITY TO INVOKE PRE-1986 LAW AND PRACTICE IN THE ENFORCEMENT OF EXISTING PERMIT CONDITIONS UNDER RIVERS AND HARBORS ACT SECTION 10 PERMITS IN WHICH UTILITIES HAVE CONSENTED TO UNDERTAKE NECESSARY RELOCATIONS IN THE INTERESTS OF NAVIGATION WHEN REQUESTED BY THE CORPS AT THEIR OWN EXPENSE.

THE PRE-1986 PRACTICE ENTAILED CORPS ENFORCEMENT OF WHAT ARE CALLED RESERVATIONS OF THE RIGHT TO COMPEL REMOVAL OR RELOCATION OF UTILITIES INCORPORATED AS PERMIT CONDITIONS CONTAINED IN PERMITS ISSUED BY THE CORPS OF ENGINEERS UNDER SECTION 10 RIVERS AND HARBORS ACT OF 1899 AT THE TIME OF DREDGING AND INSTALLATION OF THE UTILITY CROSSING. THIS RESERVATION IS THE EMBODIMENT OF THE PARAMOUNT FEDERAL NAVIGATIONAL SERVITUDE UNDER THE COMMERCE CLAUSE OF THE U.S. CONSTITUTION. IN FACT FEDERAL COURTS HAVE CONSISTENTLY HELD THAT FAILURE TO EXPRESSLY RESERVE THIS AUTHORITY CONSTITUTES A WAIVER OF THE NAVIGATIONAL SERVITUDE.

IN CALIFORNIA PUBLIC UTILITIES HAVE LONG SINCE NEGOTIATED STATEWIDE PERMITS WITH THE STATE LANDS COMMISSION WHICH ISSUES PERMITS UNDER ITS AUTHORITY OVER SUBMERGED LANDS THAT PURPORT TO EMBODY CONDITIONS INCLUDED IN CONCURRENT FEDERAL PERMITS. HOWEVER, ENFORCEMENT OF CONCURRENT STATE PERMIT CONDITIONS MUST NECESSARILY DEFER TO A CLASSIC APPLICATION OF THE DOCTRINE OF FEDERAL PREEMPTION.

WE HAVE CONFIRMED THAT FOR EACH UTILITY RELOCATION REQUIRED BY PROJECT CONSTRUCTION A SECTION 10 (33 U.S.C. 403) PERMIT ISSUED FOR UTILITY CROSSINGS OF NAVIGABLE WATERS INCORPORATES AS AN EXPRESS CONDITION AS FOLLOWS: " IF FUTURE

OPERATIONS BY THE UNITED STATES REQUIRE AN ALTERATION IN THE POSITION OF THE STRUCTURE OR WORK.. OR IF IN THE OPINION OF THE SECRETARY OF THE ARMY, IT SHALL CAUSE UNREASONABLE OBSTRUCTION TO THE FREE NAVIGATION OF SAID (SIC) WATER, THE OWNER WILL BE REQUIRED UPON DUE NOTICE FROM THE SECRETARY OF THE ARMY, TO REMOVE OR ALTER THE STRUCTURAL WORK OR OBSTRUCTION CAUSED THEREBY WITHOUT EXPENSE TO THE UNITED STATES SO AS TO RENDER NAVIGATION REASONABLY FREE, EASY AND UNOBSTRUCTED;...".

WE HAVE DETERMINED THE APPROPRIATE WAY TO ENFORCE THESE RESERVATIONS IS IN THE FORM OF A SUIT AGAINST THE CORPS OF ENGINEERS UNDER 28 U.S.C. 1361, THE FEDERAL MANDAMUS STATUTE, TO COMPEL THE CORPS TO ENFORCE THEIR OWN PERMIT CONDITION. IN ADDITION, A SUIT TO ABATE AN OBSTRUCTION TO NAVIGATION UNDER SECTION 10 AND SEEKING AFFIRMATIVE MANDATORY RELIEF IN THE FORM OF AN INJUNCTION UNDER SECTION 12 (33 U.S.C. 406) MAY BE BROUGHT AGAINST THE UTILITY OWNER TO REMOVE OR ALTER THE UTILITY.

IT APPEARS THAT THE PROJECT SPONSOR HAS STANDING TO BRING SUCH AN ACTION AS ONE LIKELY TO SUFFER ACTUAL INJURY TO NAVIGATION FROM THE OBSTRUCTION. IT ALSO APPEARS THAT UNLIKE OTHER SUITS FOR EQUITABLE RELIEF NO IRREPARABLE INJURY OR INADEQUATE REMEDY AT LAW MUST BE PROVEN IN ORDER FOR AN INJUNCTION TO ISSUE. FINALLY, AS AN ALTERNATIVE TO INJUNCTION A FEDERAL COURT MAY AWARD DAMAGES IN THE AMOUNT OF THE REMOVAL COSTS TO THE SPONSOR.

WE AT THE PORT, AS PARTNERS RATHER THAN ADVERSARIES IN THE CONSTRUCTION OF THIS AUTHORIZED NAVIGATION PROJECT, PREFER TO SETTLE OUR DIFFERENCES THROUGH ALTERNATIVE DISPUTE

MECHANISMS SUCH AS THOSE MANDATED UNDER THE LOCAL COOPERATION AGREEMENT FOR THE PROJECT.

THE CORPS HAS RECOGNIZED AND TO SOME EXTENT HAS ANTICIPATED THIS PROBLEM BY PROVIDING IN A SERIES OF GUIDANCE LETTERS TO DISTRICT OFFICES AS FOLLOWS:

IN THOSE CASES WHERE THE LOCAL SPONSOR HAS, DESPITE EVERY REASONABLE EFFORT FAILED TO REACH AGREEMENT WITH AFFECTED UTILITY OWNERS REGARDING RELOCATIONS OR REMOVALS, AND FURTHER, LACKS THE AUTHORITY TO FORCE SUCH ACTIONS, THE FEDERAL GOVERNMENT MAY ELECT TO EXERCISE FEDERAL AUTHORITIES TO COMPEL THE RELOCATION OR REMOVAL, SUCH EXERCISE OF FEDERAL POWER SHALL NOT RELIEVE THE LOCAL SPONSOR OF ITS STATUTORY RESPONSIBILITY TO ASSURE THE RELOCATIONS OR THE ACQUISITION OF LANDS AND ITEMS TO BE REMOVED, AT NO EXPENSE TO THE FEDERAL GOVERNMENT.

CONSEQUENTLY, ANY FEDERAL EXPENSE INCURRED IN COMPELLING THE RELOCATION OR ACQUISITION WILL BE BORNE ENTIRELY BY THE LOCAL SPONSOR INCLUDING ADMINISTRATIVE AND LITIGATION EXPENSES. FEDERAL FUNDS WILL NOT BE MADE AVAILABLE TO CONDUCT THE ACTUAL RELOCATION OR ACQUISITION. MOREOVER, ANY FEDERAL ACTION SHALL IN NO WAY DETERMINE THE ULTIMATE APPORTIONMENT OF THE RELOCATION OR ACQUISITION COSTS BETWEEN THE OWNER(S) AND THE LOCAL SPONSOR.

HOWEVER, THE GUIDANCE LETTER FURTHER PROVIDES:

CONTINUED CONSTRUCTION ON A NAVIGATION PROJECT SHOULD NOT BE COMPROMISED BY THE REFUSAL OF THE OWNER(S) OF ITEMS OR FACILITIES LOCATED WITHIN THE NAVIGATIONAL SERVITUDE TOP

REMOVE OR PAY THE COST OF REMOVAL OF SUCH ITEMS. AS A LAST RESORT, THE FORCED REMOVAL OF ANY ITEM WITHIN THE BOUNDS OF THE NAVIGATIONAL SERVITUDE MAY PROCEED USING FUNDS MADE AVAILABLE JOINTLY BY THE FEDERAL GOVERNMENT AND THE LOCAL SPONSOR, IN PROPORTION TO THE COST SHARING APPROPRIATE FOR THE PROJECT. THE DISTRICT COUNSEL SHOULD EXPLORE AND DEVELOP ALL AVAILABLE MEANS FOR RECOUPING ANY SUCH EXPENDITURES FOR REMOVALS FROM THE APPROPRIATE OWNERS, INCLUDING ANY NECESSARY COORDINATION WITH THE LOCAL UNITED STATES ATTORNEY. SUCH COSTS SHOULD INCLUDE ALL NECESSARY ADMINISTRATIVE AND LITIGATION EXPENSES. UPON RECOVERY THE LOCAL SPONSOR SHALL BE REIMBURSED FOR ITS SHARE.

IN OUR JUDGMENT IF THE CORPS IS PREPARED AS IT INDICATES TO EXERCISE ITS AUTHORITY TO ENFORCE UTILITY RELOCATIONS AS A LAST RESORT, THEN WE SUBMIT THE CORPS SHOULD BE WILLING ON A CASE-BY-CASE BASIS AS INDICATED BY PRE-1986 PRACTICE TO INVOKE THE PERMIT CONDITIONS IN ORDER TO ACCOMPLISH THE NECESSARY RELOCATIONS, OR IN THE ALTERNATIVE, ALLOW THE NON-FEDERAL SPONSOR TO ENFORCE THE CORPS PERMIT CONDITION IN THE FIRST INSTANCE WITHOUT HAVING TO SUE THE CORPS TO ACCOMPLISH THE SAME RESULT.

ACCORDINGLY, WE REQUEST THE SUBCOMMITTEE INSTRUCT THE CORPS THAT WHERE SUCH AUTHORITY IS INADEQUATE THAT THE CORPS ENFORCE EXISTING PERMIT CONDITIONS TO EFFECT REQUIRED PROJECT-RELATED RELOCATIONS, OR IN THE ALTERNATIVE PERMIT THE NON-FEDERAL SPONSOR TO ENFORCE THOSE SAME CONDITIONS AS APPROPRIATE.

SECTION 916 FEDERAL PROJECT REPAYMENT DISTRICTS

SECOND, SECTION 916 OF THE 1986 ACT AUTHORIZES THE SECRETARY TO ENTER INTO AN AGREEMENT WITH A NON-FEDERAL SPONSOR IN ADVANCE OF PROJECT CONSTRUCTION TO PERMIT THE SUBSTITUTION OF THE ESTABLISHMENT OF A FEDERAL PROJECT REPAYMENT DISTRICT WITH THE AUTHORITY TO LEVY ASSESSMENTS ON REAL PROPERTY LOCATED WITHIN THE DISTRICT BOUNDARIES FOR THE REQUIRED DEPOSIT OF LOCAL FUNDS IN ADVANCE OF CONSTRUCTION SO LONG AS THE NON-FEDERAL DEMONSTRATES TO THE SECRETARY'S SATISFACTION THAT ASSESSMENTS COLLECTED BY THE REPAYMENT DISTRICT ARE SUFFICIENT TO EQUAL OR EXCEED COST RECOVERY REQUIREMENTS OVER THE TERM OF REPAYMENT UNDER FEDERAL LAW, IN THE CASE OF A NAVIGATION PROJECT PRINCIPALLY DURING THE PERIOD OF CONSTRUCTION. THIS PROVISION HAS SUBSEQUENTLY BEEN INTERPRETED BY THE CORPS TO ENCOMPASS ONGOING PROJECTS DURING THE PERIOD OF CONSTRUCTION IN THE CASE OF A PROJECT SUBJECT TO MULTI-YEAR CONTRACTS.

NO GUIDANCE HAS BEEN ISSUED BY THE CORPS TO IMPLEMENT THIS SECTION OF THE LAW. IN THAT REGARD WE HAVE EXPLORED THE ESTABLISHMENT OF A NAVIGATION SPECIAL ASSESSMENT DISTRICT UNDER A 1988 REVISION TO STATE LAW PERMITTING A PORT OR HARBOR DISTRICT TO EMPLOY SUCH A MECHANISM TO ASSESS A LEVY AGAINST REAL PROPERTY LOCATED IN SUCH A DISTRICT FOR BENEFITS RECEIVED FROM NAVIGATION IMPROVEMENTS. WE ARE CURRENTLY REVIEWING THE POSSIBLE UTILIZATION OF SECTION 916 AND THE COMPLEMENTARY PROVISION SUBSEQUENTLY ADOPTED IN CALIFORNIA WITH THE OPTION OF TO ESTABLISHING A NAVIGATION SPECIAL ASSESSMENT DISTRICT TO FINANCE ALL OR A PART OF THE ADDITIONAL LOCAL SHARE OF PROJECT CONSTRUCTION DURING THE REMAINING PERIOD OF CONSTRUCTION.

WE REQUEST THE SUBCOMMITTEE TO DIRECT THE ASSISTANT SECRETARY OF THE ARMY TO REVIEW THIS PROVISION FOR ITS APPLICABILITY TO NAVIGATION PROJECTS AND TO ISSUE APPROPRIATE GUIDELINES TO BE APPLIED ON A CASE-BY-CASE BASIS TO NEW AND ONGOING PROJECTS.

THANK YOU

Port of San Luis, CA, Breakwater Project

STATEMENT OF CAROLYN MOFFATT, PRESIDENT, BOARD OF COMMISSIONERS, PORT OF SAN LUIS, CA

ACCOMPANIED BY JAMES BLECHA, COMMISSIONER, BOARD OF COMMISSIONERS, PORT OF SAN LUIS, CA

Mr. **Langner**. We now have Carolyn Moffatt, chairman of the port commission, Port of San Luis.

Ms. **Moffatt**. Thank you very much, Mr. Chairman, for this opportunity. I have with me Mr. James Blecha, who is a commissioner of the Port of San Luis also.

The Port of San Luis is located about 56 miles north of Point Conception on the central coast of California. As such, we are subject to very severe sea conditions. Our breakwater was authorized by Congress in 1913 and protects our port operations from the northwest. We, at this time, continue to be subject to swell and storm from the south.

The breakwater was originally designed at 16 feet and over the years it has been breached and repaired a number of times. It now stands an average of 11 feet. The Army Corps of Engineers has identified the need for $2.3 million; 56 percent of this has been authorized in the President's budget. The need is current and full funding will avoid the cost of remobilization at a later time. We request allocation of the full $2.3 million for the fiscal year 1991, and I thank you very much for your time, sir.

[The statement follows:]

STATEMENT OF CAROLYN MOFFATT

PORT SAN LUIS HARBOR is located on the central coast of California, 53 miles north of Point Conception. The closest harbors are Morro Bay, 20 miles upcoast and Santa Barbara, 80 miles to the south. The port is located AT the northern end of San Luis Bay in the lee of Point San Luis. Partial protection of port facilities against incident waves from the north-west is provided by the Point San Luis Federal breakwater which extends south-east from Point San Luis.

Our Federal breakwater was authorized by Congress in 1888 and the construction was completed in 1913. In 1924, three hundred feet of the structure was breached. This breach was repaired with a concrete cap in 1927 which washed out again in 1935. The slopes were then covered with 14-ton stone. The severe winter storms of 1982-84 caused extensive damage to the breakwater. Structural repairs were made in 1984 when approximately 5000 tons of stone were reset at various points along the length of the breakwater. The existing Federal breakwater is 2,400 feet in length and constructed of rubblemound approximately 20 feet wide at the crest with an average elevation of +11 feet above Mean Lower Low Water (MLLW). U.S. Army Corps of Engineer design elevation is established +16 MLLW. THUS, THERE IS A PRESENT HEIGTH DEFICIT OF 5 FEET, RESULTING IN A MINIMAL BREAKWATER HEIGTH AND HARBOR PROTECTION.

By contrast, the breakwater structure at the Diablo Canyon Nuclear Power Plant, seven miles up coast from Port San Luis, is built of interlocking, 36-ton tribar topped by 400 ton concrete caps with a crest heigth of +20 feet above MLLW and a width of 19 feet. Waves in excess 29.5 feet have been measured at this structure.

The Army Corp of engineers surveyed the Point San Luis Federal Breakwater in 1986 and it was determined that $2,306,000 is required to bring the structure up to it's design specifications. Of this $2.3 million, only $1,288,000.00, or 56% was actually budgeted for 1990-91. WE ARE REQUESTING THAT THE FULL AMOUNT OF $2,306,000.00 BE ALLOCATED FOR THE CONSTRUCTION NECESSARY TO BRING THE POINT SAN LUIS FEDERAL BREAKWATER UP TO IT'S DESIGN STANDARDS.

At this time, additional breakwater structures are not economically feasible at Port San Luis. Therefore, it is VITAL to the economy of Central California that the Federal breakwater at Point San Luis be maintained in as good condition as possible.

Key Facts About Port San Luis, California

☐ Port San Luis is a commercial port with a newly constructed, $28 million marine oil terminal, which docks over 10 tankers monthly and off-loaded over 554,000 tons of petroleum product in 1989.

☐ Over 65% of the users of our port facilities are commercial fisherman with salmon, albacore, crab, shark, bottom fish, and kelp harvesting as the most prominent fisheries.

☐ CLEAN SEAS petroleum-cleanup vessels and support equipment are based at Port San Luis Harbor. This is due to close proximity to the existing and proposed offshore oil facilities.

☐ Barges and tug boats use the Port San Luis harbor to support the existing oil tanker traffic and the DIABLO CANYON ATOMIC POWER PLANT.

☐ The present mooring area is at full capacity, with a current waiting list of over 100 persons for new moorings. Plans are being made to increase the number of moorings by 25% to meet increasing commercial fishing and recreational vessel demand.

☐ Modern vessel haul-out facilities, up to 60 tons capability, operate at full capacity throughout the year with over 300 boats hauled out annually. Haul-out operations are often limited by adverse weather and sea conditions.

☐ Many restaurants, motels, resorts, and other businesses around San Luis Bay and at Port San Luis benefit directly by the safe beaches and quiet water created our existing breakwater. A $4.2 million camping park is being planned for the boating public on 26 acres above the harbor and the acquisition, restoration, and planned public access to the historic Victorian 1890 Lighthouse at Point San Luis is being pursued by the Port San Luis Harbor District.

SANTA CRUZ HARBOR, CA, COMPREHENSIVE STUDY

STATEMENT OF BRIAN FOSS, PORT DIRECTOR, SANTA CRUZ HARBOR, CA

Mr. LANGNER. Brian Foss is port director of Santa Cruz Harbor, Mr. Chairman. You might be interested to know that, relative to its size, they had the heaviest damage of the marine facilities in California during our earthquate last October.

Brian.

Mr. FOSS. Good afternoon, Mr. Chairman. I would like to review for just a second a true success story at Santa Cruz, a real testament to what the Federal local alliance and what is really an investment can come to.

Prior to 1986, the harbor at Santa Cruz had to be dredged by a yearly appropriation of $1 million. In 1986, the Federal Government and the port district joint ventured a sand bypass system, which is now operated totally by the port district at no cost to the Federal Government. We are 100-percent open for the last 4 years. This has facilitated approximately 20 million dollars' worth of gross product each year from our commercial fishing and recreational industries, and it really is a success story. We need to bring back good stories, because you spend a lot of money and you need to know that it goes good places.

Today, we are asking for help with a $300,000 Corps of Engineers feasibility study for our jetty systems, which will result in reducing the hazards that are still associated with the entrance and reducing the amount of sand volume. Any improvements, of course, would be cost shared in the future; we commit to that. Thank you.

Mr. LANGNER. Thank you, Brian.

We have next Eric Bourdon, Los Angeles County Department of Beaches and Harbors.

LOS ANGELES COUNTY, CA, SHORELINE AND BEACH PROJECTS

STATEMENT OF ERIC BOURDON, DEPARTMENT OF BEACHES AND HARBORS, LOS ANGELES COUNTY, CA

Mr. BOURDON. Mr. Chairman, we have filed a written statement with the committee.

Our department manages 31 miles of shoreline which attracts about 75 million visitors and users each year. This makes our coastline one of the heaviest used recreational facilities in the Nation. In addition to that, these coastal beaches provide a protective barrier to the billions of dollars of investment in public and private property along the Los Angeles and Orange County shoreline.

We are here today to ask you to support funding the coast of California storm and tidal wave study for the segment that would include Los Angeles County and Orange County. The information from this study will allow us to do a better job in protecting these very valuable facilities.

An appropriation of $400,000, rather than the $800,000 listed in the C-MANC budget, is necessary in 1991. This project does require local participation and both Los Angeles County and Orange County have agreed to work together to develop a local cost-sharing program. We thank you for your consideration, Senator.

[The statement follows:]

STATEMENT OF ERIC BOURDON

The Board of Supervisors of the County of Los Angeles respectfully requests the serious consideration of the Congress of the United States for several projects urgently required to preserve and restore a vital and precious asset, the 75 mile shoreline of Los Angeles County, including the Marina del Rey Small Craft Harbor.

County beaches continue to be extremely vulnerable to future storms such as those which caused millions of dollars of damage in 1983 and 1988.

Healthy beaches are necessary, natural buffers to protect public facilities from the unpredictable forces of the ocean. Because Los Angeles County has one of the most heavily urbanized and developed shorelines in the country, it is important to fund and complete the studies and dredging project requested below in order to help prevent future damage to significant public investments in shoreline facilities.

California Storm and Tidal Wave Study (Approximate cost: $400,000)

To date, the California Storm and Tidal Wave Study has examined the San Diego County coast to document changes in the shoreline and compile a technical data base quantifying those changes. The data base provides information necessary for decisions regarding the restoration and maintenance of the shoreline. This segment of the California Coast is now complete. Funding of $400,000 should be approved in fiscal year 1991 to initiate monitoring and analysis work in the South Coast Region, which includes Orange and Los Angeles Counties. Los Angeles and Orange Counties are working to put together a program to act as local co-sponsors and jointly cost-share, on a 50-50 basis, with the Federal Government.

The Los Angeles-Orange County coastline is a heavily populated region with the highest beach use in the United States. Vulnerable public and private property along the immediate coastline is continually threatened by severe storm damage. Therefore, information from this study will help local government make better land use and coastal protection decisions.

Information from this study could serve to prevent problems in the future such as the breaching of the Los Angeles Harbor and Redondo Beach Harbor seawalls, and damage to Santa Monica Pier.

The Corps of Engineers should be directed to place emphasis on the reach of shoreline from the western Los Angeles County line to Dana Point in Orange County. The County of Los Angeles is now expending $500,000 for shoreline profiles, and has prepared coastline surveys and data collections since the 1940's. This information will be made available for the study.

Marina del Rey Dredging Project (Approximate cost: $1,700,000)

Marina del Rey Small Craft Harbor is a vital asset to the County of Los Angeles and to the boating public. Marina del Rey Small Craft Harbor was built during the late 1950's as a joint-venture involving Federal and County government. At that time the Federal Government agreed to maintain the project design depths of the entrance and main channel of the harbor. The Corps FY 1991 budget includes $1.7 million targeted specifically for dredging Marina del Rey.

Any assistance you can offer will be greatly appreciated.

SAN FRANCISCO BAY AREA NAVIGATION PROJECTS

STATEMENT OF FRANK BOERGER, GOLDEN GATE PORTS ASSOCIATION, STOCKTON, CA

Mr. **LANGNER**. That makes two bits of good news, Mr. Chairman, we brought you today in terms of the local participation and success of a project. We are concluding with Frank Boerger, representing the Golden Gate Ports Association and vice chairman of our C–MANC.

Frank.

Mr. **BOERGER**. Thank you very much, Mr. Chairman. I have submitted a statement for the record that recommends some increases in funding over the President's budget. Those increases have already been testified to by the Port of Richmond in order to continue their project and by the Port of Oakland, another one of our members, in connection with dredge management in the whole bay area. We ask your serious consideration of those increases because they are very important to the continued viability of our port system in the bay area. Thank you very much.

[The statement follows:]

STATEMENT OF FRANK BOERGER

My name is Frank Boerger. I represent the Golden Gate Ports Association (GGPA). This association is a cooperative venture by the six public ports that are served through the Golden Gate, namely Oakland, Redwood City, Richmond, Sacramento, San Francisco and Stockton. The ports of this association furnish a major gateway to the United States from the countries around the Pacific Rim. It contributes annually about $3 billion in sales actions and $1.7 billion in regional gross product. The region is the fourth largest consumer area in the United States. About 45,000 jobs with payrolls of $1.2 billion are attributed to the maritime agencies served in the region of the Golden Gate. The total economic benefits that accrue to the area, based on this maritime industry, are more than $10 billion annually and the support facilities include a total of about 79,000 jobs.

GGPA recommends increased appropriations over the President's budget for four important projects as presented by C-MANC. The first and foremost of these is for the Port of Richmond which is an important and integral part of the system that services this area. In this connection the recommendation for a million dollars to continue construction of this channel deepening is essential and should be recommended by the Congress. The infrastructure covering the Local Sponsor's participation and dedication to this project is in place and on schedule with the Corps' critical path network time frame.

Another very important need is the development of a long-term solution to dredged material disposal for the entire Bay system. The Corps of Engineers, with the EPA, has suggested a comprehensive scope of work that will provide environmentally sound solutions to dredged material disposal including upland, in-bay and ocean disposal. There have been many suggestions for cost-sharing of important studies over the last several months. These proposals have hindered the progress that should have been made in developing solutions. The GGPA recommendation concurs that allocating an additional $5.47 million as part of the O&M budget to the Corps of Engineers, with the directive that these funds be used for the initiation and completion of studies to formulate the long-term maintenance strategy for the Bay Area, will provide the needed impetus to this program. Of course, the $1.53 million in the President's budget will be needed in any case for continued maintenance of existing channels.

In order to preserve and continue important responsibilities of the Corps, it is recommended that an increase to $2.8 million be allocated for the San Francisco Bay-Delta Model Structure maintenance and an increase to $2.0 million for Drift Removal.

Therefore I appear to support the recommendations, which GGPA helped formulate, of the California Marine Affairs and Navigation Conference regarding Corps of Engineers' projects in the area served through the Golden Gate. We support the suggestions in the President's budget for continuing construction at the ports of Oakland and Sacramento and the San Francisco Bay to Stockton project. We also support the maintenance dredging requirements for the channels to the Ports of Richmond, Redwood City, those Suisun Bay channels to the Ports of Sacramento and Stockton, and those in San Pablo Bay and Mare Island Strait.

This Committee has long shown great prescience in adopting and proceeding with important programs across the country. We believe that our recommendations in this next fiscal year follow the leadership that this Committee has provided by continuing important projects once they are underway and seeing them through to completion with adequate provisions for long-term maintenance.

ADDITIONAL PREPARED STATEMENTS FOR THE RECORD

Mr. LANGNER. I also have additional statements from San Mateo Harbor District and the city of Newport Beach which I ask be made part of the record.

[The statements follow:]

STATEMENT OF SAN MATEO COUNTY HARBOR DISTRICT

Honorable Chairman and members of the committee, my name is Jean Flocks and I am a Commissioner for the San Mateo County Harbor District, which is a special district located in Northern California, near San Francisco. It is indeed a pleasure to appear before you again as both a Director of CMANC and as a long time member of the San Mateo County Harbor District's Board of Commissioners. I have two items I would like to state for the record:

(1) First of all, San Mateo County Harbor District totally agrees and endorses the CMANC Funding Package that has been presented to you for your consideration.

(2) San Mateo County Harbor District wants to go on record as making this committee and the entire Congress of the United States aware of the fact that it believes that small ports, harbors and marinas in the State of California need your continued support and that of the Army Corp of Engineers in order to continue to provide maintenance dredging and other essential services to keep our operations economically viable.

The Army Corp of Engineers originally built the outer breakwaters for Pillar Point Harbor (Half Moon Bay, CA) through an appropriation of Congress, in 1961. It allowed us to have a very vital harbor of refuge constructed which serves not only recreational boaters in Northern California but, more importantly, commercial fishermen who utilize our port to provide California and the nation with an abundant and fresh supply of healthy, delicious fish. This is particularly important at this time in our history since the nation appears to be following a more nutritious lifestyle which focuses more on fish products than they have in the past.

Our fishing industry in San Mateo County represents over $10 million a year in gross income to the commercial fishermen who utilize our port. As you know, under the multiplier concept, these funds generate another 2-1/2 to 3 times their weight in additional spending throughout California. The result is revenue that comes to the federal government in high income tax dollars which helps fund our federal budget. The Harbor District would like you to consider the fact that since the military situation in Europe looks increasing favorable in terms of a reduction of military manpower and equipment, military spending can and should be reduced significantly in the future. It is our sincere hope that Congress in the near future will allocate more funding to the Army Corp of Engineers and ensure that maintenance dredging and other necessary and essential services that they have provided to small ports and harbors like ours all over the country can be fully funded and maintained in the future.

Small ports and harbors cannot afford to do maintenance dredging and/or repairs to their extensive breakwaters because they do not generate enough revenue from boating and/or the fishing community to carry out these public works-type projects. If the Army Corp of Engineers abandons the small ports and harbors in favor of those that are large, who incidentally can afford to pay for their own maintenance dredging and repairs, then Congress will be doing a grave injustice to the small businessmen and fishermen who will be forced out of our harbors and marinas because they can no longer berth there and use them as a port of refuge.

Future military appropriations that had formerly gone to the defense industry should be shifted to public works type projects that provide employment, revenue and taxes as well as enjoyment to the many thousands of people who utilize our ports and marinas for business and pleasure.

We again ask congress to think long term and continue the time-honored long term support congress has provided since the 1800's.

Your support for the Army Corp of Engineers projects is vitally important. We urge you to continue to fund the small ports, marinas and harbors throughout this country as you have in the past.

STATEMENT OF THE CITY OF NEWPORT BEACH, CA

Dear Mr. Chairman and Members of the Committee,

The City of Newport Beach is in support of the President's Fiscal Year 1991 budget. In particular, the City urges your support for funding of the Santa Ana River Mainstem Project which enters the Pacific Ocean adjacent to the City. The City strongly supports the earliest possible construction start for the project and implementation of the associated marsh restoration work at the mouth of the river.

The City also supports a Corps project, the Coast of California Storm and Tidal Waves Study, which is not shown for funding in the President's proposed Fiscal Year 1991 budget. The study will provide valuable coastal information and coordination which will enable a more rational management and design of coastal facilities and sand nourishment programs by Federal, State and Local agencies. The City, in conjunction with CMANC, and other local agencies in Los Angeles and Orange Counties request that an additional $400,000 be budgeted to provide for the federal share of funds necessary to expand the study to the Los Angeles - Orange County region. It is understood that the study would be funded under a 50/50 cost sharing program by the Corps of Engineers and local agencies.

Thank you,

CLOSING REMARKS

Mr. LANGNER. Also supporting our recommendations here today is a good sampling of the C-MANC membership, which is described on a map we gave you, Mr. Chairman, showing our statewide representation of public projects, including from the north part of our State where our fine dungeness crab comes from, Jack Alderson of the Humboldt Bay Harbor and Recreation District, Commissioners Bob Davenport, chairman, and Dennis Hunter, and Les Westfall of Westfall Stevedoring. From the city of San Rafael is Public Works Director Dave Bernardi. From the Port of Redwood City, Port Director Floyd Shelton and commissioners Walter Small, Guy Smith, Dick Dodge and Jack Castle. From San Mateo County Harbor District, Jean Flocks, commissioner. From the firm of Daniel, Mann, Johnson & Mendenhall, Rod Lundin, Chuck Rendall, and Jerry Seelman. From the Oxnard Harbor District, former C-MANC chairman and president of the commission, Edward Millan, and Bob Jennings, commissioner. Carl Nelson from the Keith Companies. Don Webb and John Wolter from the city of Newport Beach. Bob Wright, chairman emeritus of the California Marine Parks and Harbor Association. And our photographer, whom you saw up there on the podium taking pictures, Charles Abbott, president of Charles Abbott Associates, and Veronica Sanchez, Port of San Francisco.

I have included in my testimony some remarks we have and some critiques, if you would, Mr. Chairman, taking a little bit of liberty with my long years of observing this operation, and I hope you might find some interest in those. Thank you very much for this opportunity to appear.

Senator JOHNSTON. Thank you very much, Mr. Langner. You have not lost your touch in coordinating the testimony. We appreciate it.

We will take a brief recess before calling the California Water Commission.

[A brief recess was taken.]

CALIFORNIA WATER RESOURCE DEVELOPMENT PROJECTS

STATEMENT OF CLAIR A. HILL, CHAIRMAN, FEDERAL APPROPRIATIONS COMMITTEE, CALIFORNIA WATER COMMISSION

Senator JOHNSTON. We are happy next to welcome the California Water Commission, with Clair Hill, chairman of the Federal Appropriations Committee.

Mr. HILL. My name is Clair Hill. I am chairman of the California Water Commission Federal Appropriations Committee, which is an official agency of California. I have other members of the commission with me: the chairman, Stan Barnes; Commissioner Audrey Tennis; Martin Matich; and Jim Lenihan. Also our executive officer, Orville Abbott.

The commission is charged by statute with representing State and local interests before the committee. We have coordinated our presentations with the presentations by local representatives. Prior to introducing the representatives of the local agency who will speak on specific projects, I will make a few general remarks.

The commission supports funding of all the projects the Corps of Engineers and the Bureau of Reclamation included in the President's budget. We are supporting additional funds for projects of the Corps and the Bureau which we believe will merit special consideration. The commission has filed its formal statement with your committee. We sincerely appreciate the consideration given to the needs of the people of California by the chairman and members of your committee.

[The statement follows:]

STATEMENT OF CLAIR A. HILL

Mr. Chairman and Members of the Committee, I am Clair A. Hill, Chairman of the Federal Appropriations Committee of the California Water Commission. The California Water Commission is an official agency of the State of California. It is composed of nine representative citizens from throughout the State. The Commission is charged by statute with representing state and local interests before this Committee. We have coordinated our presentation with the presentations by local agency representatives. On behalf of the California Water Commission, I would like to express our sincere appreciation of the support this Committee has given California water and flood control appropriations over the years. I am privileged to appear before you with the official recommendations of the State of California for Fiscal Year 1990-91 appropriations.

The Commission supports funding for all projects of the Corps of Engineers and the Bureau of Reclamation included in the President's budget so that planning, design and construction of the projects can proceed on a timely schedule. Projects which are cost-shared by local agencies are moving ahead at a reasonable rate. These projects are shown on the attached document entitled, "California Water Commission - Federal Water and Flood Control Programs in California for Fiscal Year 1990-91."

RECOMMENDATIONS FOR ADDITIONAL FUNDS

The Commission is recommending that additional funds be appropriated for several projects of the Corps of Engineers, Bureau of Reclamation and the Fish and Wildlife Service, which are summarized in the following table. Brief comments on the need for the additional funds follow the table.

CWC NO.	PROJECT	PRESIDENT'S BUDGET	COMMISSION'S RECOMMENDATION
CORPS OF ENGINEERS			
	Northern California Streams		
9E	Sacramento River Restoration at Glenn-Colusa Irrigation District	--	$ 300,000
9G	Cache Creek Basin (Lake County)	--	500,000
9H	South Sacramento Urban Levees and Tributaries	--	500,000
	San Joaquin River Basin		
11-1	Caliente Creek (Kern County)	--	250,000
11-2	Tule River (Tulare County)	$ 64,000	154,000
11-8	San Joaquin River Mainstem and Tributaries	--	500,000
11-10	Arroyo Pasajero (Fresno County)	--	500,000
16	Walnut Creek Basin (Contra Costa County)	85,000	150,000
23	Carneros Creek (Santa Barbara County)	--	300,000
27D	Lower San Joaquin River - Clearing and Snagging *(Use remaining FY 1989-90 funds in FY 1990-91)	--	*
29	New Melones Lake (Calaveras, Tuolumne, Stanislaus Counties)	2,000,000	5,000,000
BUREAU OF RECLAMATION			
61-3	Shasta Dam Temperature Control Device (Shasta County)	--	$10,640,000
66	Salinas Valley Water Resource Management Plan (Monterey County)	--	180,000
73A	Eastern Municipal Water District Loan (Riverside County)	--	Support
73C	San Sevaine Creek Water Project Loan (San Bernardino County)	--	Support
79A	Off-Stream Storage	--	150,000
80	San Joaquin Valley Conveyance Study	--	50,000
80A	Delta Water Management Program	--	350,000
85	Refuge Water Supply	--	200,000
FISH AND WILDLIFE SERVICE			
107	Coleman National Fish Hatchery	1,500,000	5,300,000
	TOTALS	$3,649,000	$25,024,000
	TOTAL RECOMMENDED INCREASE		$21,375,000

CORPS OF ENGINEERS

Northern California Streams

CWC No. 9E - Sacramento River Restoration at Glenn-Colusa Irrigation District. Funding will allow the Corps of Engineers to complete the preconstruction engineering and design and the necessary environmental documentation, and to initiate construction.

CWC No. 9G - Cache Creek Basin (Lake County). Funding will allow the Corps to undertake a reconnaissance investigation of the alternative projects to reduce flood damages around Clear Lake.

San Joaquin River Basin

CWC No. 11-1 - Caliente Creek (Kern County). Kern County has determined that the presently proposed project is not financially feasible. The County is considering other alternatives to protect against repetitive flooding. The Commission supports the execution of an agreement between the County and the Corps and funding for the Corps to initiate the feasibility investigation.

CWC No. 11-8 - San Joaquin River Mainstem and Tributaries. Funding will allow the Corps to initiate a reconnaissance study to determine sediment sources in the San Joaquin River and the bypass systems and methods of solving the sedimentation problem in the interest of flood control.

CWC No. 11-10 - Arroyo Pasajero (Fresno County). Funding will allow the Corps of Engineers to undertake a one-year reconnaissance study which will focus primarily on flood control measures upstream of the California Aqueduct. The present DWR-USBR program focuses primarily on flooding and siltation of and near the Aqueduct. Current flood protection facilities have proved inadequate. Presently the Arroyo Pasajero basin cannot accommodate a ten-year flood unless emergency measures are taken. The proposed Corps study of possible detention reservoirs on the tributary streams would be complementary to the joint program of the DWR-USBR for flood control measures at or near the California Aqueduct.

CWC No. 23 - Carneros Creek (Santa Barbara County). Funding will allow the Corps of Engineers to initiate the preconstruction engineering and design of the recently reformulated Carneros Creek project.

CWC No. 29 - New Melones Lake. Additional appropriations will fund the initiation of construction of the remaining facilities at Glory Hole and Tuttletown Recreation Areas at New Melones Lake. Local agencies have agreed to support development of facilities at approximately fifty percent of the cost of facilities initially promised by the Corps of Engineers.

BUREAU OF RECLAMATION

CWC No. 61-3 - Shasta Dam Temperature Control Device. Funding will allow the USBR to initiate construction, thus assuring that the temperature control device is operational at the earliest possible time to maximize benefits to the winter-run Chinook salmon.

CWC No. 66 - Salinas Valley Water Resource Management Plan (Monterey County). Funding will allow the USBR to initiate a joint federal-local investigation of solutions to the deteriorating water quality and management problems in the Salinas Valley ground water basin.

CWC No. 73A - Eastern Municipal Water District Loan (Riverside County). The Commission supports the loan application but makes no recommendation for funding pending approval of the application by the Commissioner of Reclamation.

CWC No. 73C - San Sevaine Creek Water Project Loan (San Bernardino County). The Commission supports the loan application but makes no recommendation for funding pending approval of the application by the Commissioner of Reclamation.

CWC No. 79A - Off-Stream Storage. The Commission supports the completion of the feasibility report of off-stream storage reservoirs south of the Delta on both the west side and the east side of the San Joaquin Valley.

CWC No. 80 - San Joaquin Valley Conveyance Study. The Commission supports the completion of the feasibility report, which will contain a preferred alternative for reducing the ground water overdraft problems in the San Joaquin Valley.

CWC No. 80A - Delta Water Management. The Commission supports funding for USBR's ongoing participation in this program with other Federal and State agencies, which has resulted in significant progress towards resolution of Delta issues.

CWC No. 85 - Refuge Water Supply. The recommended funding will be used by the USBR on site-specific ground water investigation on managed wetland areas.

FISH AND WILDLIFE SERVICE

CWC No. 107 - Coleman National Fish Hatchery. The Commission recommends additional funding for the highest priority facilities in the Coleman National Fish Hatchery development plan.

CALIFORNIA WATER COMMISSION
Federal Water and Flood Control Programs in California
for Fiscal Year 1990-91
(In Thousands of Dollars)

CWC NO.	PROJECT AND COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THROUGH SEPTEMBER 30, 1989	APPROVED BY CONGRESS FY 1989-90	PRESIDENT'S BUDGET FY 1990-91	COMMISSION'S FINAL RECOMMENDATION FY 1990-91
	CORPS OF ENGINEERS **GENERAL INVESTIGATIONS - Survey**					
3	Calleguas Creek Ventura (No funds needed in FY 1990-91)	2,090	2,090	--	--	--
7	Sacramento - San Joaquin Delta Investigation	3,665	2,847	400	350	350
9A	Inspection of Competed Works Sacramento River Flood Control Project (Operations and Maintenance)	4,200	1,703	900	900	900
9D	Northern California Streams - Yuba River Watershed	1,250	500	375	375	375
9F	Northern California Streams - Yolo Bypass Yolo	1,250	--	150	400	400
9G	Cache Creek Basin Lake	--	--	--	--	500
9H	South Sacramento Urban Levees and Tributaries	--	--	--	--	500
11	San Joaquin River Basin					
11-1	Caliente Creek Kern	--	--	--	--	250
11-2	Tule River	750	600	90	64	154
11-3	Kaweah River	1,125	935	120	70	70

CWC NO.	PROJECT AND COUNTY		TOTAL FEDERAL COSTS	ESTIMATED COSTS THROUGH SEPTEMBER 30, 1989	APPROVED BY CONGRESS FY 1989-90	PRESIDENT'S BUDGET FY 1990-91	COMMISSION'S FINAL RECOMMENDATION FY 1990-91
23	Carneros Creek Santa Barbara		550	--	--	--	300
39A	Napa River Flood Control Project		5,000	3,390	--	410	410
40	San Rafael Canal Marin		750	--	--	150	150
	CONSTRUCTION General						
9E	Sacramento River Restoration at Glenn-Colusa Irrigation District	Fed Non-Fed Total	4,500 1,500 6,000	--	--	--	300
18-1	Cache Creek - Settling Basin	Fed Non-Fed Total	14,700 6,700 21,400	1,093	5,500	2,100	2,100
18A	Guadalupe River Santa Clara	Fed Non-Fed Total	52,300 52,300 104,600	2,050	750	9,000	9,000
21	Santa Ana River Mainstem	Fed Non-Fed Total	908,000 451,000 1,359,000	25,643	20,000	65,000	65,000
25	Corte Madera Creek Marin	Fed Non-Fed Total	17,700 11,800 29,500	10,717	1,100	400	400
27	Dry Creek - Warm Springs Lake Sonoma		361,500	314,620	3,950	3,500	3,500
27A	Fairfield Vicinity Streams	Fed Non-Fed Total	13,800 22,500 36,300	9,480	2,945	2,160	2,160
27D	Lower San Joaquin River and Tributaries (Snagging and Clearing Only)	Fed Non-Fed Total	9,900 1,900 11,800	4,049	2,000	--	—[1]
28	Merced County Streams	Fed Non-Fed Total	70,500 30,400 100,900	8,902	1,100	1,900	1,900

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[1] The Commission recommends funds appropriated by Congress in FY 1989-90 for this project be used in FY 1990-91.

CWC NO.	PROJECT AND COUNTY		TOTAL FEDERAL COSTS	ESTIMATED COSTS THROUGH SEPTEMBER 30, 1989	APPROVED BY CONGRESS FY 1989-90	PRESIDENT'S BUDGET FY 1990-91	COMMISSION'S FINAL RECOMMENDATION FY 1990-91
BUREAU OF RECLAMATION PROGRAMS							
42	Sacramento River Division		365,868	311,897	6,325	3,866	3,866
47	Auburn-Folsom South Unit		2,164,041	344,611	1,700	1,500	1,500
50	San Luis Unit (Includes funds for the Arroyo Pasajero Flood Control Project)		1,354,922	551,634	5,428	2,911	2,911
60	Trinity River Restoration Program		302,742	263,845	12,280	7,362	7,362
61	**Miscellaneous Project Programs** (Includes $500 for Delta Support Studies and $1,900 for Suisun Marsh Preservation Agreement)		--	--	7,850	2,400	2,400
61-1	Delta Support Studies *(An additional $1,900 included in CWC 82 CVP Operations and Maintenance)		--	--	1,900	*500	*500
61-2	Suisun Marsh Preservation Agreement		--	--	5,150	1,900	1,900
61-3	Temperature Control Device at Shasta Dam		--	299,164	800	--	10,640
62	San Felipe Division		349,570	299,118	2,600	1,715	1,715
63	Bradbury Dam - Cachuma Project Safety of Dams		50,000	--	100	280	280
64	**Central Valley Project - Safety of Dams**						
64-3	O'Neill Dam		2,250	--	45	1,980	1,980
LOAN PROJECTS							
73C	San Sevaine Creek Water Project San Bernardino, Riverside	Fed Non-Fed Total	28,600 14,000 42,600	--	--	--	--
76	United Water Conservation District Ventura	Fed Non-Fed Total	18,156 826 18,982	6,909	6,247	--	--

CWC NO.	PROJECT AND COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THROUGH SEPTEMBER 30, 1989	APPROVED BY CONGRESS FY 1989-90	PRESIDENT'S BUDGET FY 1990-91	COMMISSION'S FINAL RECOMMENDATION FY 1990-91
91	Colorado River Water Quality Improvement Feasibility Investigation (Upper and Lower Basin)	8,300	6,963	1,235	135	135
91A	Colorado River Basin Salinity Control Project - Title I ($143 in California)	481,536	352,394	19,060	14,295	14,295
	OTHER PROGRAMS (Lower Colorado Region)					
96	Indian Wells Valley Ground Water Project Kern, San Bernardino, Inyo	525	--	175	175	175
97	Santa Ana Watershed Management Study	500	122	138	99	99
98	Colorado Riverfront Work and Levee System ($1323 in California)	118,403	58,562	8,400	6,300	6,300
99	Minor Work on Completed Projects ($51 in California)	Continuing	--	45	107	107
99A	Environmental and Interagency Coordination Activities ($265 in California)	Continuing	9,028	500	440	440
99B	Technical Assistance to States ($105 in California)	Continuing	424	194	175	175
99C	Investigation of Existing Projects ($52 in California)	686	--	80	90	90
99D	Colorado River Recharge Imperial, CA and Henderson, NV Units ($18 in California)	280	--	100	30	30
	OPERATIONS AND MAINTENANCE (MidPacific Region)					
82	Central Valley Project	Continuing	--	49,953	64,033	64,033
82B	Cachuma Project	--	--	172	185	185
82C	Orland Project	--	--	133	185	185
82D	Solano Project	--	--	1,359	1,763	1,763

CENTRAL VALLEY FLOOD CONTROL PROJECTS

STATEMENT OF STEPHEN K. HALL, VICE PRESIDENT, RECLAMATION BOARD, STATE OF CALIFORNIA

Mr. HILL. I will now introduce certain members of the California delegation who will make brief statements. They have filed their written statements with the committee. The first one will be Mr. Steve Hall, vice chairman of the State Reclamation Board.

Steve?

Mr. HALL. Mr. Chairman, thank you for the opportunity to testify. I am here representing the State Reclamation Board, which is charged with flood control matters in the Central Valley of California. I am here to describe for you 5 projects which are important to this area of California, in addition to the 25 that are included in the President's budget.

Those five are, as follows: the first is the San Joaquin River basin mainstem and tributaries investigation. It is an investigation that we are asking the Corps of Engineers to participate in, which is a basinwide look at flood control in the central part of the State. We are asking $500,000 to fund the Corps' work in that area.

Second, we are asking $300,000 for the Corps to design a river restoration project at the Glenn-Colusa Irrigation District intake in the Sacramento Valley. This is a project that is exceedingly important, not only for the valuable farmland in that area but for valuable fisheries in the State, including the endangered winter run salmon.

Third is Caliente Creek, which is a watershed in the southern part of the San Joaquin Valley. It has some serious flooding and sedimentation problems. It has received strong local support. In fact, I expect that there will be members who have submitted statements in support of it from that area. It has a very strong cost-sharing agreement that has become sort of a precedent. We are asking $250,000 there.

In the Cache Creek-Clear Lake area, the Lake County interests have a serious flooding problem around Clear Lake. They have asked for assistance in the neighborhood of $500,000 for a Corps study. The Corps has looked at other options that have not proven feasible. This will be a reconnaissance level look.

Finally, we have a request for a new study at Arroyo Pasajero in the western San Joaquin Valley. It is an ephemeral stream that, when it runs, runs heavily. It carries a heavy sediment load and represents a flooding threat, not only for communities but for the Lemoore Naval Air Station. It also includes in the sediment loads some naturally occurring asbestos, and this Arroyo Pasajero intersects with the California Aqueduct, which is a source of drinking water for most of southern California. That asbestos is getting in the aqueduct and we hope and expect the Corps will be able to help us solve that problem.

That concludes our specific comments, Mr. Chairman. We thank you for the opportunity to testify, for all the help that you and your staff have given us in the past, and for your continued support.

Mr. HILL. Thank you very much.

[The statement follows:]

STATEMENT OF STEPHEN K. HALL

THE RECLAMATION BOARD'S RECOMMENDATIONS FOR FEDERAL FLOOD CONTROL PROJECTS

1990-91 Summary in $1,000

Corps of Engineers' Projects	Page	Board Recommends	President's Budget
I. Surveys			
A. Northern California Streams			
-- Yolo Bypass	2	400	400
-- Yuba River Watershed	2	375	375
-- Cache Creek - Clear Lake	2	500	0
-- South Sac. Urban Levees & Tribs.	3	500	--
B. Sacramento-San Joaquin Delta Inv.	3	350	350
C. San Joaquin River Basin			
-- Caliente Creek	4	250	0
-- Tule River	4	154	64
-- Kaweah River	4	70	70
-- Calaveras River	4	325	325
-- San Joaquin River Mainstem & Tributaries	4	500	0
-- Mokelumne River and Tributaries	4	300	300
-- Arroyo Pasajero	4	500	--
II. General Investigations (PE&D)			
A. American and Sacramento Rivers	4	2,000	2,000
B. Dry Creek	5	300	300
III. Construction			
A. Cache Creek Settling Basin	6	2,100	2,100
B. Redbank and Fancher Creeks	6	7,500	7,500
C. Fairfield Vicinity Streams	6	2,160	2,160
D. Lower San Joaquin River and Tribs.	7	*	0
E. Merced County Streams	7	1,900	1,900
F. Sacramento River Bank Prot. Proj.	7	5,000	5,000
G. Sacramento River Flood Cont. Proj.	7	1,050	1,050
H. Sacramento River Urb. Area Levee Recon.	8	13,470	13,470
I. Sacramento R. Restoration at Glenn-Colusa ID	8	300	0
IV. Operations and Maintenance			
A. Inspection of Completed Works - Sacramento River Flood Cont. Proj.	8	900	900
U. S. Bureau of Reclamation Projects			
A. Auburn-Folsom South Unit	9	1,500	1,500

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*The Reclamation Board recommends that funds appropriated by Congress in FY 1989-90 for this project be used in FY 1990-91.

THE RECLAMATION BOARD'S RECOMMENDATIONS

The Reclamation Board, as the State agency which furnishes required local assurances for federal levee and channel projects in California's Central Valley, respectfully submits this statement of support for the following projects.

While all projects are important to the health, safety, and well-being of Central Valley residents, the surveys and projects described as follows are of particular importance to The Reclamation Board.

I. Surveys

A. Northern California Streams

This survey, authorized in 1958 and 1962, is a study of the Sacramento River and its tributaries, in regard to flood control measures.

Yolo Bypass

This reconnaissance level investigation was initiated in 1989 by the conference report. This investigation will provide information for the existing levees and other flood control facilities on the west side of the bypass as well as the adjacent streams including Cache Creek, Putah Creek, and Willow Slough in Yolo and Solano Counties. Appropriate measures to provide higher levels of flood protection for the Cities of Woodland and Davis will also be studied. The Reclamation Board supports $400,000 for this investigation.

Yuba River Watershed

A one-year reconnaissance-level study of alternatives for flood control and related purposes in the Yuba River watershed should be completed by March 1990. The 1986 flood and the resulting levee failure made everyone aware that much more information is needed to provide a solution to the problems in this area. The Reclamation Board supports $375,000 to initiate the feasibility phase of the study.

Cache Creek - Clear Lake

The Corps of Engineers has completed its feasibility report regarding water resources development in the Cache Creek Basin. The report investigated larging the outlet channel of Clear Lake in the upper basin to reduce flooding of development around the Lake. This alternative was found to have a benefit cost ratio of less than 1 to 1.

The fact remains that flooding is a real problem at Clear Lake and Lake County has asked the Corps of Engineers to undertake an investigation to look at the feasibility of other alternative projects.

The Reclamation Board supports $500,000 for this needed effort.

South Sacramento Urban Levees and Tributaries

It has come to The Reclamation Board's attention that the levees on the South Sacramento tributary streams would not have adequate freeboard to handle the predicted flows. This investigation will provide information which may lead to a feasible solution to the problems on Elder Creek, Unionhouse Creek, and Beach Lake. The results of this investigation will be integrated into the Corps of Engineers' ongoing project in and around the Sacramento Area.

The Reclamation Board supports $500,000 for this investigation.

B. Sacramento-San Joaquin Delta Investigation

The study area is located in Sacramento, Yolo, San Joaquin, Contra Costa, and Solano Counties and extends from the southern limits of the City of Sacramento, the City of Stockton, and west to Suisun Bay. The area consists of about 700,000 acres of land segregated into some 100 tracts and islands, bounded by interconnecting waterways, which are confined by 1,100 miles of levees which normally prevent the lands from being inundated by high tides or high stages. Lands within these levees are among the most productive agricultural lands in the State. The survey considers flood control, associated recreation and environmental problems, Delta water transfer and salinity intrusion problems. A critical need for levee rehabilitation throughout the Delta exists.

Current activities include coordination with the U. S. Bureau of Reclamation and State Department of Water Resources to formulate the comprehensive plan. The Reclamation Board supports $350,000 for this investigation.

C. San Joaquin River Basin

This survey, authorized in 1964 and initiated in 1968, encompasses the southern portion of the Central Valley, including part of the Delta-Central Sierra area and all of the San Joaquin and Tulare Lake Basins. The study will investigate the problems of flood control, irrigation, municipal water supply, power, recreation, fish and wildlife, and water quality. The study area is the site of many complex water supply and water transportation problems. Flooding is a major problem in the study area. During the severe floods of 1969, 1983, and 1986, the area experienced extensive damages. Projects to be considered include dams and reservoirs, stream diversion, bank protection, and levee and channel improvement.

The San Joaquin River Mainstem and Tributaries Investigation would be a one-year reconnaissance-level study to investigate sources of sediment transport, flooding and other problems on the San Joaquin River between Friant Dam and the Delta, including the bypass system. Also, all the eastside tributary streams that bring floodwaters and debris into this area would be investigated to determine what alternative solutions are available.

There is a flood problem associated with Arroyo Pasajero and Cantua Creek watersheds near Coalinga, California in southwest Fresno County. Updated hydrologic and sedimentation studies now reveal that both the estimated sediment loads and storm volumes are several times greater than original design estimates. There are several public facilities in the floodplain including Lemoore Naval Air Station, Interstate 5, and Highway 198. The town of Huron is subject to flood damage as well as the California Aqueduct.

The Reclamation Board supports the following funding:

Caliente Creek	-	$250,000
Tule River	-	154,000
Kaweah River	-	70,000
Calaveras River	-	325,000
San Joaquin Mainstem and Tributaries	-	500,000
Mokelumne River and Tributaries	-	300,000
Arroyo Pasajero	-	500,000

II. General Investigations (PE&D)

A. American and Sacramento Rivers

The Reclamation Board and the Department of Water Resources are acting as the local sponsor for the Feasibility Study on the American River Watershed which is scheduled to be completed in the Fall of 1990. The Feasibility Cost Sharing Agreement was signed in June, 1988. The nonfederal share is being funded by The Reclamation Board, the Department of Water Resources, Sacramento County, Placer County, Sutter County, City of Sacramento, Reclamation District 1000, and the American River Flood Control District.

The Reclamation Board is the nonfederal sponsor for the feasibility study on the Sacramento Metropolitan Area Investigation which is also scheduled for completion in the fall of 1990. These projects have been combined, and will be constructed as one project. The Reclamation Board passed a resolution on February 16, 1990 directing the Corps of Engineers to concentrate on the Alternative that would lead to an Expandable Flood Control facility at or near the Auburn Dam site and to raise the levees around the Natomas area. The Reclamation Board supports $2,000,000 to begin the design of this critically needed project.

B. Dry Creek

A feasibility report on Dry Creek was completed in January 1989. Funds for this study are being shared on a 50-50 basis with the City of Roseville. Serious flooding occurred in Roseville and Rio Linda in February 1986 emphasizing the need for flood control measures in this area. The Board supports $300,000 for preconstruction engineering and design on this project.

III. Construction

A. Cache Creek Settling Basin

The Corps of Engineers has completed its feasibility report for the Cache Creek Settling Basin. The report recommends enlarging and raising the levees around the existing Settling Basin to increase the Basin's sediment storage capacity. The Settling Basin is now full and is affecting the flood-carrying capacity of the

Yolo Bypass. The current funding will be for the first year's construction.

The Board supports $2,100,000 to continue the construction of this project.

B. Redbank and Fancher Creeks

The Corps of Engineers has completed its General Design Memorandum. The report recommends single-purpose flood control improvements on Redbank, Fancher, and Pup Creeks and Alluvial Drain; and dual-purpose flood control and recreation facilities on Big Dry Creek. The plan provides for enlargement of the existing Big Dry Creek Dam and Reservoir, a new dam on Fancher Creek, and detention basins on Redbank and Pup Creeks and Alluvial Drain.

The project was authorized for construction by the Water Resources Development Act of 1986, and The Reclamation Board supports $7,500,000 for continuing construction of this project.

C. Fairfield Vicinity Streams

The project is located in the vicinity of the Cities of Fairfield and Suisun in Solano County; the drainage basin comprises 45.8 square miles. There are five streams on which improvements are to be constructed. These are Ledgewood, Laurel, Union Avenue, Pennsylvania, and McCoy Creeks. The project as presented in the Corps of Engineers' Phase II GDM included channel improvements and diversion of three creeks, levees on two of the creeks, and construction of recreation facilities.

In May 1986, The Reclamation Board signed the assurance agreement so that this project could move to construction. The first and second phases have been completed. Phase III is under construction. The Reclamation Board supports $2,160,000 for completion of this project.

D. Lower San Joaquin River and Tributaries

The Lower San Joaquin River was authorized in 1944 and by the 1983 and 1988 Supplemental Appropriations Acts. The existing project completed in 1968 consists of channels, levees, and riverbank revetment from Friant Dam on the San Joaquin River to Stockton, a distance along the River of about 225 miles.

The needed work includes selective channel clearing and removal of debris and bars to restore channel capacity to historic levels on the San Joaquin River. Initial work in the Eastside Bypass has been done which was identified as an emergency situation. The next phase of the work will be covered in a joint EIS-EIR which is being revised and scaled down to those areas of work where local agreement has been reached.

The Reclamation Board recommends that funds appropriated by Congress in FY 1989-90 for this project be used in FY 1990-91.

E. Merced County Streams

This project, authorized in 1970, will provide flood protection for Castle Air Force Base, the City of Merced, and adjacent suburban and agricultural lands. The assurance agreements have been signed and construction should begin in 1990.

The Reclamation Board supports $1,900,000 for continuing the construction of this project.

F. Sacramento River Bank Protection Project

The project, authorized in 1960, is a long-range federal-State effort, aimed at preserving the existing project levee system of the Sacramento River. These existing levees offer flood protection along 192 miles of the Sacramento River between Collinsville (in the Delta) to Chico Landing. The Sacramento River Bank Protection Project work consists of providing some form of bank stabilization at those points which are identified each year as the most critical.

The Reclamation Board supports $5,000,000 for construction of the Sacramento River Bank Protection Project.

G. Sacramento River Flood Control Project

This project was authorized in 1917 and modified by various Flood Control and/or River Harbor Acts in 1928, 1937, and 1941.

The project comprises a comprehensive system of levees, overflow weirs, drainage pumping plants, and flood bypass channels, extending along the Sacramento River from Collinsville to Chico Landing.

The funds in the President's Budget are necessary to complete two items: 1) final design for the levees along the Colusa Basin Drain; and 2) finish design for the levee restoration work on the levees in the Marysville-Yuba City area.

The Reclamation Board supports $1,050,000 for this program.

H. Sacramento River Urban Area Levee Reconstruction

This project was authorized in 1917 and modified by various Flood Control and/or River Harbor Acts in 1928, 1937, and 1941.

This program would allow reconstruction of 32 miles of the 110 miles of levees which protect the Sacramento urban area. This program will be cost shared with a number of local agencies in the Sacramento Area. The Reclamation Board will sign the Local Cooperation Agreement with the Corps of Engineers.

The Reclamation Board supports $13,470,000 for continuing the construction of this project.

I. Sacramento River Restoration at Glenn-Colusa Irrigation District

This project involves restoration of the hydraulic characteristics of the main channel of the Sacramento River. The Corps of Engineers is considering

Engineering and Design of works to restore the elevation of the Sacramento River in the vicinity of the Glenn-Colusa Irrigation District intake to conditions existing prior to the flood of 1970. The Reclamation Board supports $300,000 for construction of this project.

IV. Operations and Maintenance

A. Inspection of Completed Works - Sacramento River Flood Control Project

The Reclamation Board is concerned about the long-term integrity of the Sacramento River Flood Control System. The project is an integral part of the State's flood control plan and protects over one million people and billions of dollars in property. A break in the project levee on the Yuba River flooded thousands of homes in February 1986, and other areas within the project were seriously stressed.

This geotechnical work performed by the Corps of Engineers determines where design deficiencies exist within the levee system. The Reclamation Board supports $900,000 for this phase of the program to prepare initial appraisal studies for 250 miles of levees in the Sacramento River Flood Control Project levee system.

U. S. Bureau of Reclamation Projects

A. Auburn-Folsom South Unit

Auburn Dam, part of the Central Valley Project, was authorized in 1965. The Auburn Dam and Reservoir site is located on the north fork of the American River adjacent to the City of Auburn. The present downstream Folsom Dam and levee system do not provide adequate flood protection. This project will provide additional flood protection to the Sacramento area. The Reclamation Board supports $1,500,000 for this program.

SAN JOAQUIN VALLEY PROJECTS

STATEMENT OF GEORGE D. McKEAN, CHAIRMAN OF THE BOARD OF DIRECTORS, MID VALLEY WATER AUTHORITY

ACCOMPANIED BY:

RICHARD SCHAFER, MID VALLEY WATER AUTHORITY

JEFF TAYLOR, MID VALLEY WATER AUTHORITY

AUDREY RATERMAN, MID VALLEY WATER AUTHORITY

Mr. HILL. Our next witness will be Mr. George McKean, chairman of the Mid Valley Water Authority.

George?

Mr. McKEAN. Mr. Chairman, my name is George McKean, chairman of the board of directors for the Mid Valley Water Authority. I am appearing today on behalf of the authority to support the U.S. Bureau of Reclamation San Joaquin Valley conveyance study and the off-stream storage study. With me today are Richard Schafer and Jeff Taylor on my right, and over here on the left is Audrey Raterman, who also represent the authority.

My written statement has been submitted and in order to save the subcommittee's time, I will ask that it be included in the record.

We request that the subcommittee allocate $50,000 for the San Joaquin Valley conveyance investigation and $150,000 for the off-stream storage study to continue the orderly development of the Mid Valley Canal. Thank you for the privilege of appearing before you and your subcommittee.

Mr. HILL. Thank you.

[The statement follows:]

STATEMENT OF GEORGE D. McKEAN

SAN JOAQUIN VALLEY CONVEYANCE STUDY

My name is George D. McKean and I am Chairman of the Board of Directors of the Mid-Valley Water Authority. I am appearing today in support of the continued funding of the Bureau of Reclamation planning study identified in prior budgets as the San Joaquin Valley Conveyance Study. This study has been funded in prior years, but was not allocated funds in the President's budget for Fiscal Year 1990-91.

My purpose before the Committee is to request that funds be included in the Fiscal Year 1990-91 budget in an amount not less than $50,000 for advance planning of Stage Two of the preferred alternative identified in the feasibility study. Without these funds, we will not be able to continue the orderly development of the Mid-Valley Canal Project.

PURPOSE AND AUTHORITY

The purpose of the San Joaquin Valley Conveyance Investigation is to evaluate the economic feasibility of alternative routings of conveyance (canal) facilities for the importation of additional CVP water supply into the Valley for alleviation of the existing 1.0 million acre-feet of groundwater overdraft. Enhancement of fish and wildlife resources is a corollary objective of the study.

The study is being conducted in cooperation with the State of California, Department of Water Resources and the Mid-Valley Water Authority.

The San Joaquin Valley Conveyance Investigation is being conducted under the East Side Division Authorization Act of

September 7, 1964, P.L. 89-561 and was initiated in October, 1984.

STUDY AREA

The study area lies within the San Joaquin Valley covering portions of Merced, Madera, Fresno, Tulare, Kings and Kern Counties and contains approximately 3-million acres.

STUDY STATUS

The San Joaquin Valley Conveyance Investigation report is currently under final review by the Bureau of Reclamation and the final published report is expected to be released in April 1990.

The Bureau's report describes the various alternatives that were evaluated and identifies a preferred alternative which provides for the development of the Mid-Valley Canal Project in three stages.

In the Initial Stage, no new conveyance facilities would be constructed. Existing San Joaquin Valley conveyance facilities would be used to deliver additional water to the MVWA service area and would provide short-term reduction of the groundwater overdraft.

The Second Stage of the plan would include the construction of an intertie between the Cross Valley Canal and the Friant-Kern Canal. Use of the Cross Valley Canal to wheel MVWA supplies would require negotiation of an agreement with the canal owners. Several members of the MVWA are also part owners of the Cross Valley Canal. A series of pumping plants would be constructed to move water north in the Friant-Kern Canal from the intertie.

Under Stage Three, with the allocation of additional CVP water supplies to the MVWA, new conveyance facilities would be constructed or existing ones enlarged.

With the completion of Stage Three, an average annual delivery of 645,000 acre-feet of CVP water supplies would be delivered to the Mid-Valley Water Authority service area.

In addition to relieving the groundwater overdraft problem on the east side of the San Joaquin Valley, the preferred alternative would deliver additional CVP water supplies to wetland habitat in the Sacramento and San Joaquin Valleys and integrate wetland return flows with the other CVP water supplies.

LEGISLATION

On January 31, 1989, Congressmen Lehman, Pashayan, Coelho and Thomas introduced legislation (HR 738) to authorize the construction of the Mid-Valley Unit of the Central Valley Project. However, no hearings have been held on HR 738 pending completion of the San Joaquin Valley Conveyance Investigation.

APPROPRIATIONS

General investigation funds for the Bureau of Reclamation have been included in prior years' budgets for the San Joaquin Valley Conveyance Investigation but no funds have been included in the 1990-91 budget. Therefore, we request the inclusion of $50,000 in the 1990-91 budget for Advanced Planning for the Preferred Alternative identified in the San Joaquin Valley Conveyance Investigation.

I appreciate the privilege of appearing before the Committee and respectfully urge your support and ask that my statement be made a part of the hearing record.

OFFSTREAM STORAGE STUDY

My name is George D. McKean and I am chairman of the Board of Directors of the Mid-Valley Water Authority. I am appearing today in support of the Offstream Storage study being conducted by the Bureau of Reclamation. This study has been funded in prior years, but was not allocated funds in the President's budget for Fiscal Year 1990-91.

My purpose before the Committee is to request that $150,000 be included in the FY 1990-91 budget. Without these funds, the Bureau will not be able to complete the Offstream Storage Study. After four consecutive drought years, the importance of available offstream storage for conservation of local stream runoff in wet years cannot be over emphasized.

PURPOSE

The purpose of the Offstream Storage Investigation is to define one or more offstream water storage sites in the San Joaquin or Sacramento Valleys that will provide additional firm CVP water supply and increase the flexibility of current and future water delivery systems consistent with operations of the Central Valley Project and the State Water Project.

The U.S. Bureau of Reclamation (USBR) is working jointly with the California Department of Water Resources (DWR) and the U.S. Army Corps of Engineers (USACOE) in the development of the Offstream Water Storage Study. The DWR will provide 50-percent of the costs of the study with in-kind services.

APPROPRIATIONS

General Investigation funds for the Bureau of Reclamation have been included in prior years' budgets for the Offstream Storage

Investigation but no funds have been included in the 1990-91 budget.

The Bureau needs $150,000 during fiscal year 1990-91 to complete the study and prepare a final report of their findings. Therefore, we request an appropriation of $150,000 during fiscal year 1990-91 for the Offstream Storage Studies.

I appreciate the privilege of appearing before the Committee and respectfully urge your support and ask that my statement be made a part of the hearing record.

GUADALUPE RIVER AND COYOTE CREEK PROJECTS

STATEMENT OF JOE JUDGE, CHAIRMAN, BOARD OF DIRECTORS, SANTA CLARA VALLEY WATER DISTRICT, SAN JOSE, CA

ACCOMPANIED BY JAMES LANAHAN, SANTA CLARA VALLEY WATER DISTRICT, CA

Mr. HILL. Mr. Joe Judge, chairman of the board of directors, Santa Clara Valley Water District.

Mr. JUDGE. Thank you, Mr. Chairman. I also would like to introduce one of my colleagues, Jim Lanahan, who is from the Santa Clara Valley Water District and, we are very fortunate, also is on the State Water Commission. He has been very helpful.

I am submitting four statements regarding the President's 1990-91 budget for work by the Corps of Engineers. First, the statement supporting the amount of $2 million to reimburse local sponsors for their costs in excess of 50 percent of the total project costs for the Pajaro River/Uvas Carnadero project; second, a statement supporting the amount of $9 million for the Guadalupe River project; third, a statement supporting the amount of $424,000 to complete preconstruction engineering and design of the Coyote Creek-Berryessa Creek portion of the Guadalupe River and adjacent streams project; fourth, a statement supporting the amount of $300,000 to continue the feasibility study on the Upper Guadalupe River. I respectfully request that these formal statements be accepted for the record.

Finally, I wish to express support for the President's level of funding for the Bureau of Reclamation's San Felipe Division, Central Valley project, in fiscal year 1991 budget. Thank you very much.

Mr. HILL. Thank you very much.

[The statement follows:]

STATEMENT OF JOE JUDGE

GUADALUPE RIVER PROJECT

BACKGROUND

The Guadalupe River includes the major waterway through the highly developed area of San Jose, California. Historically, the river has flooded the downtown areas of San Jose and Alviso beyond local capability to prevent. For example, estimated damages from a one percent or 100-year flood, which would inundate the urban center of San Jose, is $71,800,000. It is estimated that a 50-year flood on this river would cause $43,500,000 worth of damage under existing conditions. The probability of such a flood occurring before implementation of flood prevention measures is quite high. A 50-year flood has an 18 percent chance of occurring during a 10-year period; a 100-year flood has about 10 percent chance of occurring during this same period. There is strong potential, therefore, that a damaging flood will occur before the problem can be resolved. The Guadalupe River had started to overflow its banks in April 1982 and January 1983 before the storm receded and avoided major damage. The Guadalupe River did overbank in February 1986 causing some damage to residences and business in the St. John and Pleasant Street area.

STUDY SYNOPSIS

In 1971, the community requested the Corps of Engineers to reactivate its earlier study. The Plan of Study was completed in 1973. The initial problem definition and alternative screening was completed in 1974. More detailed problem definition and alternative studies for the Guadalupe River were completed in 1978. The Stage 2 report was completed for the combined Guadalupe River, Coyote Creek and Baylands. The report at that time established the financial feasibility and federal interest in the Guadalupe River.

In an effort to accelerate the completion of this overall program, the local community through the Santa Clara Valley Water District has provided a substantial amount of technical and financial assistance since 1972. Special planning studies have been completed by the District for inclusion into the Corps' studies at a cost of over $430,000. The Guadalupe River project received authorization for construction under the Water Resources Development Act of 1986. Since that time, the General Design Memorandum (GDM) has been drafted and is scheduled for completion in October 1989, in anticipation of start of construction in late Spring or early Summer of 1990.

The severe flood problem and the ominous threat of future damages has forced the local community to initiate local projects within the Corps project reach and reaches downstream of the Corps limits. In excess of $16 million has been spent on the planning, design and construction of such improvements to date.

FY 1990 FUNDING

The 1990 Budget includes $400,000 to complete the Preconstruction Engineering and Design (PE&D) on the Guadalupe River and $750,000 to begin construction.

NECESSARY FY 1991 FUNDING

Funding for the Guadalupe River project during 1991 in the amount of $9 million to continue construction is essential to providing critically needed flood protection to the metropolition area of San Jose and the North San Jose community of Alviso.

RECOMMENDATION

Based upon the present high flood risk and potential damage from the Guadalupe River, it is urgently requested that the President's 1990-91 Budget be supported in the amount of $9 million, for the Guadalupe River project.

FEASIBILITY STUDY ON THE UPPER GUADALUPE PORTION OF THE GUADALUPE RIVER PROJECT

BACKGROUND

The Guadalupe River is one of the two major waterways that flow through the highly urbanized area of Santa Clara County, California. Historically, the river has flooded the central district of San Jose and areas south beyond local capability to prevent. For example, the estimated damages from a one percent or 100-year flood, which would inundate the urban center of San Jose, is $71,800,000. Damages in the upper Guadalupe River's densely residential floodplain south of Highway 280 would exceed $50 million. The probability of a large flood occurring before implementation of flood prevention measures is quite high. A 50-year flood has an 18 percent chance of occurring during a 10-year period; a 100-year flood has about 10 percent chance of occurring during this same period. There is strong potential, therefore, that a damaging flood will occur before the problem can be resolved. The upper Guadalupe River near Alma Street had started to overflow its banks in February 1980 before the storm receded and avoided major damage. The upper Guadalupe River did overbank in March 1982 and again in January 1983 causing damage to several residences and business in the Alma Street and Willow Street area.

STUDY SYNOPSIS

In 1971, the community requested the Corps of Engineers to reactivate its earlier study. The Plan of Study was completed in 1973. The initial problem definition and alternative screening was completed in 1974. More detailed problem definition and alternative studies for the Guadalupe River were completed in 1978. The 1980 Stage 2 report could only establish the financial feasibility and federal interest in the Guadalupe River between Highway 880 and Highway 280. In light of flooding in 1982 and 1983, the local sponsors requested that the Corps reopen their study of the upper Guadalupe River (upstream of Highway 280).

FY 1990 FUNDING

A feasibility investigation on the upper Guadalupe River commenced during 1990 with funding in the amount of $200,000.

NECESSARY FY91 FUNDING

Funding for the upper Guadalupe project during 1991 in the amount of $300,000 to continue the feasibility study effort is essential to timely implementation of critically needed flood protection.

RECOMMENDATION

Based upon the present high flood risk and potential damage from the upper Guadalupe River, it is urgently requested that the President's 1990-91 Budget be supported in the amount of $300,000 to continue the feasibility study on the upper Guadalupe River. Costs of the study are shared equally with the sponsor.

PRECONSTRUCTION, ENGINEERING AND DESIGN OF THE COYOTE/BERRYESSA CREEKS PORTION OF THE GUADALUPE RIVER AND ADJACENT STREAMS PROJECT

BACKGROUND

The Coyote and Berryessa Creeks investigation was authorized by Congress in 1941 under the Guadalupe River and Adjacent Streams authority. Coyote Creek is one of the two major waterways that flow through the highly urbanized areas of San Jose, Milpitas and Santa Clara County, California. Berryessa Creek flows through a small portion of San Jose and the growing community of Milpitas. Historically, Coyote Creek has flooded the north San Jose community of Alviso beyond local capability to prevent. Damages on Coyote Creek would be $114 million during the 1% event to the north San Jose and Milpitas area. Berryessa Creek would cause $20 million in damage to the homes and industry of Milpitas. The probability of a large flood occurring before implementation of flood prevention measures is quite high. A 50-year flood has an 18 percent chance of occurring during a 10-year period; a 100-year flood has about 10 percent chance of occurring during this same period. There is strong potential, therefore, that a damaging flood will occur before the problem can be resolved. In January 1983, floodwaters escaped from Berryessa Creek and caused damage to several homes and businesses. Coyote Creek has caused the greater damages amounting to several million dollars, overbanking in April 1982 and again in March 1983. Hundreds of people were forced to evacuate their homes where floodwater stood for many days.

STUDY SYNOPSIS

In 1971, the community requested the Corps of Engineers to reactivate its earlier Guadalupe River and Adjacent Streams Study which included Coyote Creek. The Plan of Study was completed in 1973. The initial problem definition and alternative screening was completed in 1974. More detailed problem definition and alternative studies were completed in 1978. The third phase, study of freshwater flooding in the Baylands, (which included the lower reaches on Coyote Creek) was completed in 1979. The Stage 2 report could not establish the financial feasibility and federal interest in the Coyote Creek. In light of flooding in 1982 and 1983, the Corps refocused its study on Coyote Creek to address the inadequate level of protection provided by unstable levees. Berryessa Creek originally was a Section 205 study but was combined with Coyote Creek when the project cost exceeded the limits of that program.

In an effort to accelerate the completion of this overall program, the local community through the Santa Clara Valley Water District has provided a substantial amount of technical and financial assistance since 1972. Special planning studies have been completed by the District for inclusion into the Corps' studies. The Coyote/Berryessa Creek project received authorization for preconstruction planning, engineering and design under the Water Resources Development Act of 1986.

The severe flood problem and the ominous threat of future damages has forced the local community to initiate a local project on Coyote Creek in anticipation of future federal participation. Over $9 million has been spent on the planning, design and construction of improvements on Coyote Creek to date, which are planned for augmentation of and incorporation into the federal project. In addition, Congress authorized, in the Water Resources Development Act of 1988 (PL 100-676), $3 million in reimbursement to the Water District for construction of flood control measures upstream of the Milpitas Sewage Treatment Plant. The Corps and District have since entered into a Memorandum of Agreement relative to this reimbursement.

FY 1990 FUNDING

The 1990 Budget included $800,000 to continue Preconstruction Engineering and Design (PE&D) on Coyote and Berryessa Creeks.

NECESSARY FY91 FUNDING

Funding for the Coyote/Berryessa Creek project during 1991 in the amount of $424,000 will be required to complete Preconstruction, Engineering and Design (PE&D).

PAJARO RIVER/UVAS CARNADERO CREEK PROJECT

BACKGROUND

The Pajaro River: Uvas Carnadero Creek Project is located in Gilroy in the southern part of Santa Clara County, California. Congress originally authorized a levee project along Uvas Creek in 1944. Subsequently a more comprehensive effort to study the entire Pajaro River Basin was authorized by Congress in 1945. A specific report on the Uvas-Carnadero Creek portion was completed in August 1975.

The project is a single levee on the northwest side of the creek to prevent flood flows from entering the southern part of the City of Gilroy. In February 1981, a public meeting was held by the Corps of Engineers in Gilroy. The final General Design Memorandum was completed in September 1985. Construction began in September 1987 and was completed in July 1989. The project has an approximate $13.4 million total project cost.

The January 1982 flood, though not major in magnitude, seriously threatened the City of Gilroy. Emergency actions were necessary to prevent failure of the existing levee. However, on February 17, 1986 floodwaters exceeded the banks of Uvas Creek and flowed into 200 homes and 20 businesses causing damages exceeding $5 million. Floodwaters were greater than three feet deep.

The project protects about 600 homes, a new high school and commercial and industrial establishments from flooding. This area is that which the City of Gilroy and the county of Santa Clara have designated for development in lieu of other areas easterly of the present city which are subject to more severe flooding and in which agricultural operations are to be preserved. The project prevents damages of $19.6 million during a 1% flood event.

STUDY SYNOPSIS

Construction started in September 1987. All the project elements were completed by July 1989.

PRIOR FUNDING

In 1983 funding was first provided in the amount of $190,000 to carry out planning and design of the project through FY 1985 and to prepare the project for construction. The first stage of construction was funded ($500,000) in FY 1987. In FY 1988 $1,865,000 was budgeted to continue construction. The traditional non-federal costs on this project exceed 50% of the total project cost. In FY 1989 $2,470,000 was appropriated to finalize construction obligations including partial reimbursement of designated local sponsor costs.

NECESSARY FY91 FUNDING

Funding for the Uvas-Carnadero Creek project during 1991 in the amount of $2 million will be required to fully reimburse local sponsors for their costs in excess of 50% of the total project costs.

RECOMMENDATION

Construction of this project was completed in July 1989. It is requested that the President's Budget be supported in the amount of $2 million to complete the reimbursement of local sponsor costs in excess of 50% of the total project cost.

Mr. Hill. Next, Albert Henley, who is general counsel for many years from Santa Clara Valley, has announced that he was retiring. So he is not here and he has filed his statement. He was here this morning.

SAN FELIPE DIVISION, CVP, CALIFORNIA

STATEMENT OF MICHAEL D. ARMSTRONG, GENERAL MANAGER, PAJARO VALLEY WATER MANAGEMENT AGENCY, CALIFORNIA

ACCOMPANIED BY STEPHEN DAUTOFF, CHAIRMAN, BOARD OF DIRECTORS, PAJARO VALLEY WATER MANAGEMENT AGENCY

Mr. Hill. The next witness is Mr. Michael Armstrong, regarding the San Felipe project.

Mr. Armstrong. Mr. Chairman, my name is Mike Armstrong, the general manager of the Pajaro Valley Water Management Agency. I very much appreciate the opportunity to travel to our capital to appear before you today. With your permission, I have submitted our prepared statement for the record and I will briefly summarize its contents.

This year, the Watsonville subunit of the San Felipe Division is in the President's budget for $300,000. These funds will support the Bureau's work on our feasibility and water augmentation study. This cost-share effort will be completed in 1991, with the adoption of a Basin management plan for the Pajaro Valley, which will include a decision on our portion of the San Felipe water. From there, we will immediately begin program and project EIR and EIS work. The culmination of all of this several years' work will be an integrated management plan for sufficient water resources to support the very significant agricultural industry of the Pajaro Valley, as well as sustaining a high quality of life for our residents.

Mr. Chairman, Mr. Steve Dautoff, the chairman of our board of directors, who is here today with me, joins me and our entire board of directors in thanking this subcommittee for recognizing our needs in supporting the bureau's work on our behalf. Once again, we thank you very much for your continued and strong support. Thank you, Mr. Chairman.

Mr. HILL. Thank you.

[The statement follows:]

STATEMENT OF MICHAEL D. ARMSTRONG

Mr. Chairman, thank you for the opportunity to appear before you today and for the Subcommittee's willingness to take the time to hear the needs of the Pajaro Valley Water Management Agency.

The Pajaro Valley Water Management Agency (PVWMA) was formed in 1984 by an overwhelming voter approval of 80% to maintain local control of water resources. As a California State Special District, the Agency is charged to economically and efficiently manage all water resources in a 125 square mile area that encompasses southern Santa Cruz County, northern Monterey County and a portion of San Benito County.

Because of its location on California's Central Coast bordering the beautiful and bountiful Monterey Bay on the west and the Santa Cruz Mountains on the east, the Valley's rich agricultural land produces a great percentage of some of California's most important crops and flowers. As an example of this productivity, the Pajaro Valley produces more roses and strawberries than any other area in the world.

Like many agricultural areas in the state, groundwater is the principal source of water in the Pajaro Valley. And, like other areas, groundwater levels have declined over the decades as more acreage has been converted to farmland and as crops and flowers that demand more water have replaced those with less requirements. Where artesian wells used to provide ample water to farmers, today sea water intrusion, overdraft and pollution threaten the future of the Valley's primary industry: agriculture.

Between 1950 and 1983, several studies and investigations of the Pajaro Valley groundwater basin were conducted by the USGS, the U.S. Army Corps of Engineers, the State Department of Water Resources and many State and local agencies. While details varied, general conclusions and projections agreed that the Pajaro groundwater basin faced a future of continued decline unless the basin was brought into hydrological balance.

In 1987, the PVWMA notified the Bureau of Reclamation of its intent to utilize the 19,900 acre feet of water reserved for it by the Bureau under the Watsonville sub unit of the San Felipe Division of the Central Valley Project. Concurrently, this Agency began a cooperative effort with the Bureau to complete a feasibility and water augmentation study and to develop best management practices for the Pajaro Valley.

For the past two budget years, the California Water Commission has supported the work of the Bureau and this Agency in recommending continued funding for the feasibility studies. In FY 87-88 and FY 88-89 $100,000 of a requested $400,000 was allocated for Bureau work. This year, we request your Subcommittee support for the President's Budget which includes $300,000 for the Watsonville sub unit. This funding will allow us to complete the feasibility study and move into EIR/EIS work.

The Board of Directors of the PVWMA has worked hard to complete the present studies in a comprehensive manner. Many options for conserving, reclaiming and redistributing water are under consideration. Our goal is to be careful stewards of all present and future water resources and to endeavor to live within the means of the hydrologic system of our groundwater basin, if possible. Quality of life and economic viability go hand in hand. The rivers and streams and wildlife that inhabit the Pajaro Valley must be protected while we secure systems that will deliver sufficient water to our residents and businesses.

Mr. Chairman, we urge you to give your support to the Watsonville sub unit of the San Felipe Division in the Bureau's FY 90-91 Budget. With your continued support, the Pajaro Valley Water Management Agency will be able to make sound decisions concerning the management of our most precious resource, water. On behalf of our entire Board of Directors and the people served by our Agency, thank you for your support and continued assistance.

DRY CREEK (WARM SPRINGS LAKE) PROJECT

PREPARED STATEMENT

Mr. HILL. Mr. Robert Beach, general manager, Sonoma County Water Agency, has filed his statement with the committee.

[The statement follows:]

STATEMENT OF THE SONOMA COUNTY WATER AGENCY

Mr. Chairman and Members of the Subcommittee -- I am Robert F. Beach, General Manager of the Sonoma County Water Agency (State of California). We urge that the Subcommittee include the sum of $3.5 million in the proposed budget for the Dry Creek (Warm Springs Dam) project in Sonoma County, California.

For the past twenty-nine years we have annually represented to you our support for the Warm Springs Dam project. We have recounted floods and droughts and described the benefits that would flow from the completion of this project. Those benefits are now a reality. However, certain elements of the project remain to be completed.

In 1959, at the time Coyote Valley Dam was constructed, it was believed that the higher Russian River streamflows that would result from the project would mitigate the loss of steelhead spawning and rearing areas which were cut off by the dam. As a result, no fish hatchery or other mitigating facilities were included in the project. It soon became evident that because of high water temperatures and other reasons, the anticipated benefits would not be realized.

For many years the lack of mitigation for the steelhead loss has been a matter of concern to the California Department of Fish and Game, conservation groups, and others. In 1974, Public Law 93-251 was enacted which authorized and directed the Corps of Engineers to compensate for these fish losses in the Russian River as part of the Warm Springs Dam Project, through measures such as expansion of the Don Clausen Fish Hatchery at Warm Springs Dam. The hatchery was subsequently constructed with space to accommodate additional incubators and associated equipment for the mitigation project.

In 1983, a study was authorized to define the required steelhead mitigation. The Corps of Engineers determined that the annual production of 4,000 adult steelhead trout was necessary. The Corps also determined that the most appropriate method would be an expansion of the Don Clausen Fish Hatchery at Warm Springs Dam and the construction of new trapping, egg-taking, and imprinting facilities. The Sacramento District has prepared the design memorandum, environmental assessment, and other documentation and the plans and specifications have been completed. Construction of the fish hatchery expansion is scheduled to be completed in FY

1991. The Sonoma County Water Agency has agreed to repay the local share of the project costs under the existing water supply contract for the Dry Creek (Warm Springs Dam) project. The proposed budget includes $1.06 million to complete the funding for these and associated fish hatchery facilities.

Certain other work also remains to be completed. This work consists of the grouting of the control tower, emergency spillway slide stabilization, dam access road paving, modification of the control tower air vents and recreation area sanitation facilities.

We, therefore, request that the Subcommittee support this final request of $3,500,000 included in the President's FY 1990 budget for this project. We appreciate the support the Dry Creek (Warm Springs Dam) project has received from this Subcommittee over the years.

CENTRAL VALLEY PROJECT ACTIVITIES

STATEMENT OF JOHN C. CAMPBELL, GENERAL MANAGER, TEHAMA-COLUSA CANAL AUTHORITY

Mr. HILL. Our next member is Mr. John Campbell, manager, Tehama-Colusa Canal Authority.

Mr. CAMPBELL. Mr. Chairman, thank you for the opportunity to appear and make this statement before you. I am going to briefly summarize the summary that we filed, in the interest of time.

The Tehema-Colusa Canal Authority 18 months ago entered into a cooperative agreement with the Bureau of Reclamation for the operation and maintenance of two canal systems in northern California. At this time, it appears that our operation is going to be very successful and very cost effective.

We are here to ask your support of the President's budget of $64,233,000 for the operation and maintenance of the Sacramento River Division canals. It is worthy to note that contained in the $64 million are approximately $7.5 million that are identified almost strictly for environmental purposes. For example, monitoring Suisun Marsh, Delta Bay standard monitoring, Trinity River restoration, and several other environmental concerns. Thank you again.

Mr. HILL. Thank you.

[The statement follows:]

STATEMENT OF JOHN C. CAMPBELL

Mr. Chairman:

The United States Department of Interior, Bureau of Reclamation, entered into a cooperative agreement with the Tehama-Colusa Canal Authority for the operation and maintenance of the Tehama-Colusa and Corning Canals on October 17, 1988.

Our expenses for operation and maintenance for fiscal year 1991 of $1,326,000 are included in the President's Budget of $64,233.000 for the Operation and Maintenance Program-Central Valley Project. Also included in the $64,233.000, and supported by the Tehama-Colusa Canal Authority, is $1,200,000 for Delta Support, $1,732,000 for Kesterson Support, $500,000 for Suisun Marsh Support, $1,308,000 for fish facility rehabilitation and and replacement and $202,000 for retro-fit of recreational facilities for the handicapped.

We request your approval of the President's Budget of $64,233,000.

We are deeply appreciative of the past assistance given by this committee for appropriations for canal and distribution system construction and operation and maintenance costs for constructed CVP facilities.

In October of 1988, the United States Department of Interior, Bureau of Reclamation entered into a cooperative agreement with the Tehama-Colusa Canal Authority for the operation and maintenance of the Tehama-Colusa and Corning Canals. The water users through the Tehama-Colusa Canal Authority, have been responsible for these canal service area units of the Central Valley Project since November of 1988.

It is the intention and goal of the Board of Directors and staff of the Tehama-Colusa Canal Authority to operate and maintain these canal systems in an efficient and cost effective manner. In order to assure adequate funding for the operation and maintenance of the systems, the Tehama-Colusa Canal Authority will seek and support adequate funding for this and other elements of the Central Valley Project.

The Tehama-Colusa Canal Authority has requested that the Bureau of Reclamation enter into discussions that will result in the assumption of the operation and maintenance of the Corning Pumping Plant during Fiscal Year 1990-1991. During the past eighteen months, the Tehama-Colusa Canal Authority has gained the experience necessary to be confident that it can operate within a budget that it researches and develops. Our budget projections for Fiscal Year 1990-1991 include the Corning Pumping Plant and are in the amount of $1,326,000. The costs of the operation and maintenance of the Corning Pumping Plant together with the Corning and Tehama-Colusa Canals are reflected in the Presidents Budget for Fiscal Year, 1990-1991. During Fiscal Year 1989-1990, the Authority is sustaining a funding reduction in the amount of $140,000 or 13% of its approved budget. By reducing the amount of work that can be expected to be accomplished, we will be able to operate within these restraints.

The Tehama-Colusa Canal Authority is concerned that inadequate appropriations for operation and maintenance of the Central Valley Project and especially these particular canal systems, might well prevent timely and cost effective repairs and replacements of delivery facilities. We are further concerned that delays in funding much needed canal maintenance could well result in deterioration that would effect the ability to deliver irrigation water.

The Tehama-Colusa Canal Authority fully supports the $64,233,000 in the President's Budget for Fiscal Year 1990-1991. Contained within the President's Budget for the Central Valley Project is $1,732,000 for monitoring and evaluation at Kesterson Reservoir; $202,000 for recreation, retro-fit of existing facilities for the handicapped and food for fish hatcheries; $1,200,000 for Delta water quality monitoring; $2,400,000 for Trinity River restoration; $500,000 for environmental monitoring work on the Suisun Marsh and $1,308,000 for fish facility rehabilitation and replacement. Although these items are historically not typical operation and maintenance functions of delivery systems, they have been imposed on the Bureau of Reclamation as a responsibility. The inclusion of these and other environmental elements into the operation and maintenance budget creates an impression that the total amount of the funding requested is used for the operation and maintenance of the existing delivery facilities and as a result, may act as a limit the amount actually made available for much needed work.

The water users in the service areas of the Tehama-Colusa and Corning Canals are deeply appreciative of the past assistance given by your committee for appropriations for canal and distribution system construction and operation and maintenance. This committee's recognition of much needed funding for operation, maintenance and rehabilitation of constructed facilities is welcome and refreshing to the water user.

SACRAMENTO BAY—SAN JOAQUIN DELTA WATER QUALITY

PREPARED STATEMENT

Mr. HILL. Next the Contra Costa Water District has several members here and they have submitted their statement for the record.

[The statement follows:]

STATEMENT OF CONTRA COSTA WATER DISTRICT

SACRAMENTO - SAN JOAQUIN DELTA/BAY WATER QUALITY

Honorable Chairman and Committee members, my name is William E. Seegmiller, General Manager of the Contra Costa Water District, a public agency of the State of California.

For fifty years, Contra Costa Water District by way of repayment contracts with the U.S. Bureau of Reclamation, has been responsible for the water supply for some 400,000 people, 23 industries that employ over 12,000 employees, and 88 small farms, through the Contra Costa Canal System, the first unit of the Federal Central Valley Project. The District also diverts water from the Delta under a vested water right dating back to 1930's prior to the CVP. We depend solely and totally on the Sacramento-San Joaquin Delta for our water supply.

Due to the USBR's over-commitment of the CVP water supply and build-ups in exports from the Delta, we will experience re-occurring increased salt water intrusion in the Delta, to a level that is adverse to public health, causes loss of certain industrial products, adds severe penalty treatment costs to all industry, and causes damage to irrigated plants.

Please note that the Bay Area Counties who depend on the Delta normally export about three percent of the total water extracted from the Delta and the remainder, approximately ninety seven percent is diverted from the Delta mostly to the San Joaquin Valley irrigated agriculture and then over the Tehachapi Mountains into the Los Angeles Basin Counties where, 16 million people, over two-thirds of the State's population reside.

These adverse effects on public health, industry and agriculture occurred, during 1959 - 1960 - 1961, due to USBR operations, during the 1976 - 1977 drought, the 1987 - 1988 drought. during January and February of 1989, and again during the summer of 1989 and the winter of 1990, due to drought periods and to the obvious over-commitment of the CVP. For 161 days in 1959 and 143 days in 1961, due to USBR export pumping caused salt water intrusion, the Water District distributed notices to the County Health Department, doctors, hospitals, and the press warning of high sodium levels in the water supply.

Accordingly, Contra Costa Water District respectfully requests support for the conditions necessary to protect the beneficial uses in the Sacramento-San Joaquin Delta, San Francisco Bay and Suisun Marsh, with particular attention to:

U.S. CORPS OF ENGINEERS

No. 7 Sacramento-San Joaquin Delta Investigation

CCWD supports the President's budget of $350,000 which funds the U.S. Corps of

Engineers' equal cost sharing efforts with the California Department of Water Resources to address Delta water quality and fish and wildlife concerns.

Before proceeding with the COE's draft feasibility study for flood control and other related activities, it is essential that COE have the study results' capability to avoid adverse impacts on Delta water quality, as well as on fish and wildlife.

U.S. BUREAU OF RECLAMATION'S PROGRAMS

No. 61 1) Delta Support Studies
2) Suisun Marsh Preservation Agreement

The Bureau of Reclamation and Department of Water Resources agree that operation of the Federal Central Valley and State Water Projects have adverse effects on municipal, industrial and agricultural users which pump their water from the Delta, as well as on fish and wildlife in the Sacramento-San Joaquin Delta and San Francisco Bay Estuary.

State Water Resources Control Board's Decision 1485 requires that environmental studies be continued for data to be used in future State water rights hearings. Contra Costa Water District urges full funding for these studies including efforts in the Delta, the Bay, and the Federal share of the Suisun Marsh water quality facilities.

No. 79A Offstream Storage

Contra Costa Water District supports funding of feasibility investigations for offstream storage.

Under provisions of PL 99-546 and the Coordinated Operations Agreement, the U.S. Bureau of Reclamation now has a legal obligation to share with the California Department of Water Resources the responsibility of meeting Bay-Delta water quality standards.

Offstream storage such as the California authorized Los Banos Grande Reservoir, provides a real opportunity for the USBR to participate jointly with California Department of Water Resources in order to satisfy this legal obligation.

Contra Costa Water District supports the reprogramming of an additional $150,000.00 to provide for Federal cost-sharing feasibility work.

These studies would identify, possible Federal participation increments and potential export reduction during critical Delta Water Quality periods and Fishery requirements.

No. 80 San Joaquin Valley Conveyance Study

This study would lead to plans for recharging San Joaquin Valley aquifers with surplus Delta water and subject to the provisions of PL 99-546 and the Coordinated Operations Agreement could manage exports for the protection of Delta beneficial water uses. Contra Costa Water District supports the reprogramming of an additional $50,000.00 for this study.

No. 80A Delta Water Management Program

Consistent with the USBR obligations under PL 99-546 and the Coordinated Operations Agreement, Contra Costa Water District supports the reprogramming of an additional $350,000.00 to allow the USBR to fulfill its responsibility towards developing a program that would correct or at least minimize Delta water quality problems caused by water transfers from the Sacramento-San Joaquin Delta.

No. 81A San Joaquin River Resource Management Initiative

The adverse impacts of the San Joaquin River's poor water quality on beneficial uses, has been accruing since implementation of the Friant Project in the 1950's. We applaud Secretary of the Interior Manuel Lujan for initiating a plan of study for integration of surface and ground water operations for the purpose of water quality improvement and fish and wildlife restoration.

To that end, Contra Costa Water District supports the President's budget totalling $500,000 to fund the San Joaquin River Resource Management Initiative Studies.

No. 84 Environmental and Interagency Coordinations Activities

Contra Costa Water District supports the President's budget of $543,000.00, so that the USBR can continue with its multi-agency responsibility as envisioned in the Coordinated Operations Agreement.

In order to implement the Congressional mandates of PL 99-546 and the Coordinated Operations Agreement, we respectfully urge your support for Contra Costa Water District and the California Water Commission's FY 88-89 recommendation for the President's budget requests and the reprogramming of additional funds for California Water Resources activities.

We believe that funding necessary to implement the intent of PL 99-546 will maximize capabilities of existing projects, encourage local and State project financing and minimize the need for federal appropriations.

Please accept our appreciation for this opportunity to appear, and may this statement be made part of the record.

STATEMENT OF DOUGLASS WILHOIT, CHAIRMAN, BOARD OF SUPERVISORS, SAN JOAQUIN COUNTY, CA

Mr. HILL. The next witness is Mr. Douglass Willhoit, chairman of the board of supervisors, San Joaquin County.

Mr. WILHOIT. Mr. Chairman, thank you for the opportunity to make a presentation before you. Our statement is on file and Senator Wilson publicly stated to you our concerns and needs. I understand you stated that Senator Cranston spoke to you privately. We appreciate all the past efforts on your behalf for us and for the committee.

We are in the center of California. You heard from our port director. We are influenced by the Calaveras River, Mokelumne River, the Auburn-Folsom south unit, the delta support studies, the delta water management, the American and Sacramento Rivers, and Numelones Lake. We would appreciate that your consideration from the past be continued to the future. Thank you very much.

I would also like to submit the statement of the city of Stockton which covers some of the same items of interest to us.

Mr. HILL. Thank you.

[The statements follow:]

STATEMENT OF DOUGLASS WILHOIT

Mr. Chairman and Members of the Committee:

My name is Douglass Wilhoit. I am a member of the Board of Supervisors of the County of San Joaquin, California.

San Joaquin County is both a County with highly productive soils devoted to a wide spectrum of agricultural crops and a rapidly growing metropolitan area. The eastern portion of our County has a seriously overdrafted groundwater basin and is in need of additional supplies of surface water. In the eastern portion of our County, which includes the rapidly growing Stockton Metropolitan area, we are subject to salt water intrusion and are now losing a portion of our very valuable groundwater basin each year. This salt water intrusion can only be stopped by partial meeting our water needs through additional supplies of surface water. San Joaquin County has long been directed by the State and Federal planning authorities to look to the American River for supplemental surface water. Other alternative water supply sources are now foreclosed to us because of the belief by State and Federal authorities that the County's surface water supply would be available from the American River. Accordingly, we do look to the American River as our primary source of additional water.

The southwestern portion of our County, which contains the rapidly growing City of Tracy, also requires additional surface water.

By Federal and other action, the quantity of water in the San Joaquin River, which flows through the County, has been diminished and return flows from primarily Federal irrigation activities have seriously decreased the quality of water which reaches our County in the San Joaquin River. This decrease in water quality must be corrected.

With development and water demands increasing everywhere in our State, we must also be vigilant that the quantity and quality of water that is now available to us in the Sacramento-San Joaquin Delta and elsewhere in the County is not diminished.

Finally, as a County with much land at our below sea level, we are vitally concerned with many flood control measures. It is for the above reasons that we appear before you today.

Specifically, the County of San Joaquin requests the following appropriations be made to the Corps of Engineers and the Bureau of Reclamation for the Fiscal Year October 1, 1990, to September 30, 1991, for the projects of concern to the County:

Corps of Engineers - Investigations (Survey)

Sacramento-San Joaquin Delta	$ 350,000
Calaveras River	325,000
Mokelumne River and Tributaries	300,000
San Joaquin River Mainstream and Tributaries	0 (500,000)*

Corps of Engineers - Investigations (Pre-Construction Engineering and Design)

American and Sacramento Rivers - Sacramento	$ 2,000,000

Bureau of Reclamation - Project Facilities

Auburn-Folsom South Unit	$ 1,500,000 (300,000)*

Bureau of Reclamation - Special Investigations

Delta Water Management Program	$ 0 (350,000)*
American River Folsom South Optimization Study	50,000 (100,000)*
San Joaquin River Resources Management Initiative	200,000

Bureau of Reclamation - Operations and Maintenance (Revision)

Calaveras/Stanislaus Rivers	$ -- (300,000)**

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*Requires add-on funding above the President's Budget.
**Requires line item addition only, although add-on is preferable.

DETAILED COMMENTS

Corps of Engineers - Investigations (Survey)

Sacramento-San Joaquin Delta . . . . $ 350,000

This important investigation is being conducted jointly with the California Department of Water Resources. The study will examine alternatives to improve flood control, water supply, and environmental concerns such as riparian vegetation and water quality in the Delta. This study is of paramount importance in regard to current and future California water needs. San Joaquin County fully supports continued funding for this project.

Calaveras River	$ 325,000

Past floods on the Calaveras River have clearly demonstrated the need to augment the flood control facilities in order to protect a large urban area currently in peril. The Corps is investigating this critical flood problem. In addition, the potential for the addition of much-needed water supply storage is being investigated. The project has definite support from the community and San Joaquin County considers continued funding of this project to be a high priority item. The ultimate project may well offer the opportunity to construct multipurpose facilities, such as South Gulch Dam, which will provide both flood control and augmentation of water supplies available to Eastern San Joaquin County.

Mokelumne River and Tributaries	$ 300,000

The primary focus of this study is to investigate flooding problems along the Mokelumne River and its tributaries, including the flood-prone Cosumnes River. Other essential benefits, including critical water supply, and fish and wildlife enhancement possibilities, are being examined by the Corps. The investigation is well underway, and San Joaquin County strongly supports continued funding of this project, as not only is it important for development of the flood control and other water resources needs of the immediate basin, but it is also an imperative interface with other ongoing Federal, State and local water resource projects in our area.

San Joaquin River Mainstream and Tributaries	$ 0 (500,000)

We are concerned that this important new study is not funded under the President's Budget proposal. This study would address the difficult sedimentation problems experienced along the San Joaquin River flood system, which contributes significantly to flooding and other problems. San Joaquin County strongly urges that $500,000 be included in the budget in order that this serious problem can be studied.

Corps of Engineers - Investigations (Pre-Construction Engineering and Design)

American and Sacramento Rivers - Sacramento	$2,000,000

San Joaquin County fully supports the efforts of the Corps of Engineers and cooperating local agencies in their combined efforts to eliminate the serious flood threat to our neighbors in the metropolitan Sacramento area. However, the County is concerned that the studies being conducted by the Corps do not adequately provide for development of a much-needed water supply from the American River. The County believes that any dam being considered for the American River should be multipurpose; and, in addition to flood control, have water supply as a primary purpose. In particular, we believe it would be foolish and wasteful to construct a flood-control-only dam when there is such an urgent need for water in San Joaquin County and elsewhere in our State. San Joaquin County also should be given priority consideration for any new water developed from the project, as it has requested American River water from the Bureau of Reclamation in the past and in turn has been denied other sources under the assumption that American River water would be available. Attached to this statement is a copy of a recent letter to Mr. Dennis B. Underwood, Commissioner, U.S. Bureau of Reclamation, in which our County states its intention and financial willingness to be involved in a multipurpose Auburn Dam.

Bureau of Reclamation - Project Facilities

Auburn-Folsom South Unit	$1,500,000 (300,000)

In the President's proposed budget, this project is funded only for maintenance of lands acquired for the Auburn Dam and for miscellaneous personnel support. San Joaquin County is concerned that the project is not addressing the water needs of the County as was originally intended. We strongly urge that the Bureau be directed to consider the extension of the Folsom South Canal and the provision for water supply for San Joaquin County. We also recommend that the study include the evaluation of various sized, multipurpose projects at the Auburn site. To this end, the County respectfully requests that $300,000 be added to the budget to support these additional investigations.

Bureau of Reclamation - Special Investigations

Delta Water Management Program	$ 0 (350,000)

This critically important program was not included in the President's Budget for 1991. The purpose of the program is to support and participate with the Department of Water Resources in its various Delta investigations. The program supports engineering and environmental investigations of the north, west, and south Delta. The emphasis is on water quality, water levels, flood control and environmental benefits. San Joaquin County strongly urges that $350,000 be included in the budget in order to continue this program.

American River/Folsom South Optimization Study . . . . $ 50,000
(100,000)

This new study should prove to be very important to San Joaquin County. It could provide an opportunity to gain additional water for the County. The study will evaluate plans for concurrent surface and groundwater use from existing storage developments and tributary streams to meet Folsom South Area water needs and provide suitable instream flows for fishery and recreation purposes in the lower American River. The President's 1991 Budget only includes $50,000 for this study. As this amount is not very significant for a study of this magnitude, San Joaquin County requests an increase of $100,000 for a total budget amount of $150,000. This amount would allow the Bureau to conduct a study yielding meaningful conclusions.

San Joaquin River Resources Management Initiative . . . . $ 200,000

This new study will look at the potential for integrated operation of the San Joaquin and Tulare Lake basin reservoirs, conjunctive use of surface and groundwater, and the rehabilitation of existing conveyance facilities as a means of providing water for fishery restoration and other environmental improvements. San Joaquin County fully supports the President's 1991 Budget inclusion of $200,000 for this study. It is hoped this study will provide an approach to address the serious wrongs which have been done to the lower San Joaquin River through Federal action and the action of others.

Bureau of Reclamation - Operations and Maintenance (Revision)

Calaveras/Stanislaus Rivers . . . . $ --
(300,000)

The Bureau has been conducting a study in cooperation with the California Department of Water Resources on the Calaveras and Stanislaus Rivers. The study is examining conjunctive uses and will result in the development of a water use plan to assist in meeting the water needs of the Calaveras and Stanislaus River Basins. In the past, the Federal share of the study has been funded out of the Bureau's Operations and Maintenance budget. However, increased competition for these funds has placed continuation of this important study in jeopardy. San Joaquin County requests that a specific line item be placed in the Bureau's O&M Budget in the amount of $300,000 for this study in order to remove it from competition from other O&M items. Although an add-on amount is not required to specify this study as a line item, we recommend adding $300,000 to the budget for this study so as not to impact other important O&M items. It is our belief that the pursuit of this study can ultimately result in an increase in the total water available to the eastern portion of our County and at the same time provide one of the practical solutions to the degraded San Joaquin River.

STATEMENT OF THE CITY OF STOCKTON, CA

Mr. Chairman and Members of the Committee:

The City of Stockton supports the Corps of Engineers and Bureau of Reclamation surveys, flood control and reclamation projects in the following amounts:

1.	Calaveras River	$325,000
2.	Mokelumne River and Tributaries	300,000
3.	Sacramento-San Joaquin Delta Investigation	350,000
4.	SAN JOAQUIN RIVER MAINSTREAM AND TRIBUTARIES	500,000
5.	AMERICAN AND SACRAMENTO RIVER INVESTIGATION	2,000,000
6.	AUBURN-FOLSOM SOUTH	1,800,000
7.	DELTA WATER MANAGEMENT	250,000
8.	AMERICAN RIVER FOLSOM SOUTH OPTIMIZATION STUDY	150,000
9.	SAN JOAQIN RIVER RESOURCES MANAGEMENT INITIATIVE	200,000
10.	CALAVERAS/STANISLAUS RIVERS OPERATION AND MAINTENANCE STUDY	300,000

FLOOD CONTROL -- CORPS OF ENGINEERS

CALAVERAS RIVER $325,000

Due to the heavy rainfall in 1986, it was apparent that flood control protection for the Stockton Metropolitan area needs to be strengthened. Flow data available showed that runoff below New Hogan Reservoir caused near flood conditions in 1986. The City endorses the President's Budget and the California Water Commission's recommendation for additional work to investigate storage facilities below New Hogan Dam.

MOKELUMNE RIVER AND TRIBUTARIES $300,000

The primary focus of the study is to address flood problems and water supply problems as well as fish and wildlife enhancement possibilities in the area. The City of Stockton supports this project because of its potential beneficial effects for our water basin.

SACRAMENTO-SAN JOAQUIN DELTA INVESTIGATION $350,000

This important investigation is being conducted jointly with the California Department of Water Resources. The study will examine alternatives to improve flood control, water supply, and environmental concerns such as riparian vegetation and water quality in the Delta. This study is of paramount importance in regard to current and future California water needs.

SAN JOAQUIN RIVER MAINSTREAM AND TRIBUTARIES **$500,000**

The City is concerned that this important new study is not funded under the President's Budget proposal. This study would address the difficult sedimentation problems experienced along the San Joaquin River flood system, which contributes significantly to flooding and other problems.

AMERICAN AND SACRAMENTO RIVERS - SACRAMENTO **$2,000,000**

The City of Stockton supports the Corps of Engineers and cooperating local agencies in their combined efforts to eliminate the serious flood threat to the metropolitan Sacramento area. The studies need to provide for development of a much needed water supply from the American River. Any dam that is considered for the American River should be multipurpose. It would be wasteful to construct a flood control only dam when there is such an urgent need for water in San Joaquin County and elsewhere in our State. Stockton should have priority for any new water developed from the project, as it has requested American River water from the Bureau of Reclamation in the past and in turn has been denied other sources under the assumption that American River water would be available.

BUREAU OF RECLAMATION

AUBURN-FOLSOM SOUTH UNIT **$1,800,000**

In the President's proposed budget, this project is funded only for maintenance of lands acquired for the Auburn Dam and for miscellaneous personnel support. The City of Stockton is concerned that the project is not addressing the water needs of this area as originally intended The Bureau should be directed to consider the extension of the Folsom South Canal and the provision for water supply for San Joaquin County. We also recommend that the study include the evaluation of various sized multipurpose projects at the Auburn site. To this end, the City requests that the budget be increased from $1,500,000 to $1,800,000 to support these additional investigations.

DELTA WATER MANAGEMENT PROGRAM **$250,000**

This critically important program was not included in the President's budget for 1991. Bureau involvement is needed to support and participate with the Department of Water Resources in its various investigations. The program supports engineering and environmental investigations of the north, west, and south Delta. The emphasis is on water quality, water levels, flood control, and environmental benefits. The City urges that $250,000 be included in the budget in order to continue this program.

AMERICAN RIVER/FOLSOM SOUTH OPTIMIZATION STUDY **$ 150,000**

This new study could provide an opportunity to gain additional water for the City's watershed. The study will evaluate plans for concurrent surface and groundwater use from existing storage developments and tributary streams to meet Folsom South Area water needs and provide suitable instream flows for fishery and recreation purposes in the lower American River. The President's 1991 Budget only provides $50,000 for this study of this magnitude. The City of Stockton requests an increase of $100,000 for a total budget amount of $150,000.

SAN JOAQUIN RIVER RESOURCES MANAGEMENT INITIATIVE **$200,000**

This new study will look at the potential for integrated operation of the San Joaquin and Tulare Lake basin reservoirs, conjunctive use of surface and groundwater, and the rehabilitation of existing conveyance facilities as a means of providing water for fishery restoration and other environmental improvements. City of Stockton supports the President's budget of $200,000 for this study.

CALAVERAS/STANISLAUS RIVERS **$300,000**

The Bureau has been conducting a study with the California Department of Water Resources of the Calaveras and Stanislaus Rivers. The study is examining conjunctive uses and will result in the development of a water use plan to assist in meeting the water needs of the Calaveras and Stanislaus River Basins. In the past, the Federal share of the study has been funded out of the Bureau's Operations and Maintenance budget. However, increased competition for these funds has placed continuation of this important study in jeopardy. City of Stockton requests that a specific line item be placed in the Bureau's O&M Budget in the amount of $300,000 for this study. This study can contribute to an increase in water available to the Eastern portion of our County and at the same time provide a solution to the degraded San Joaquin River.

Resolution No. 90-0193

STOCKTON CITY COUNCIL

WHEREAS, on April 4, 1990, appropriate committees of the Congress of the United States will conduct hearings to consider Federal Appropriations for flood control, reclamation, and navigational projects for fiscal year 1990-91; and

WHEREAS, several projects to be considered at said Congressional hearings will directly impact the City of Stockton and its environs; and

WHEREAS, the expeditious construction of said projects is required to protect the health, welfare and safety of the residents of this area; now, therefore,

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF STOCKTON AS FOLLOWS:

1. That the City of Stockton does hereby support the appropriation by the Congress of the United States of funds for fiscal year 1990-91 for the planning, continuation and completion of flood control and reclamation projects as specifically set out in that certain document entitled "Statement by the City of Stockton, California Before the Committee on Appropriations Subcommittee on Energy and Water Development of the United States Senate, Flood Control and Reclamation Appropriations Fiscal Year 1990-91" (Statement), a copy of which is attached hereto as Exhibit A.

2. That said Statement is hereby approved as the official Statement of the City Council.

3. That the City Manager is directed to forward a copy of said Statement to the appropriate Congressional Committees and to the City of Stockton's representatives in the Senate and House of Representatives.

PASSED, APPROVED and ADOPTED this 26th day of MARCH, 1990.

/s/ JOAN DARRAH

JOAN DARRAH, Mayor
of the City of Stockton

REDBANK-FANCHER CREEK, CA, PROJECT

STATEMENT OF ALLEN W. BOONE, CHAIRMAN, BOARD OF DIRECTORS, FRESNO METROPOLITAN FLOOD CONTROL DISTRICT, FRESNO COUNTY, CA

Mr. HILL. Next is Allen Boone, chairman of Fresno Metropolitan Flood Control District.

Mr. BOONE. Mr. Chairman, my name is Allen Boone and I am chairman of the board of directors of the Fresno Metropolitan Flood Control District. I am also authorized to speak for the Fresno Irrigation District, the county of Fresno, and the cities of Fresno and Clovis.

We appreciate the committee's continuing support for the Redbank-Fancher Creek project and request appropriation of the $7.5 million allocated in the President's budget for the continuation of construction. We are pleased to report that our agency has thus far expended $8.9 million in compliance with our project contract with the Corps, and we anticipate transmitting an additional $1,477,000 to the Corps during 1990 and 1991.

We thank the committee and ask that our complete presentation be made a part of the hearing record. Thank you, Mr. Chairman.

Mr. HILL. Thank you very much.

[The statement follows:]

STATEMENT OF ALLEN BOONE

My name is Allen Boone and I am Chairman of the Board of Directors of the Fresno Metropolitan Flood Control District of Fresno County, California, the local sponsor for the Redbank-Fancher Creeks Flood Control Project. I am authorized to speak on behalf of the County of Fresno, the Cities of Fresno and Clovis, and the Fresno Irrigation District. In addition, the State of California has enacted legislation approving the project and authorizing State financial participation.

We respectfully request continuing project construction be retained in the FY 90-91 budget in the sum of $7,500,000 as provided in the President's budget. This sum represents the fourth construction unit of the project which will provide flood protection to important areas near Fresno Air Terminal, southeast Fresno, and to key elements of the agricultural irrigation system.

The Redbank-Fancher Creeks Project was initially identified in the Big Dry Creek project investigation of 1940 and the resulting Fresno County Streams project authorization. In 1956, the Congress specifically authorized investigation of a project modification relating to the balance of the stream system. Unfortunately, federal funds were not appropriated until the disastrous 1969 floods.

The Redbank-Fancher Creeks Project has been proven environmentally sound and economically justified on the basis of flood damage prevention alone. Though other benefits accrue, they are not required to produce a positive benefit/cost ratio. The project will provide protection to the metropolitan area of Fresno County containing a population in excess of 400,000. The benefit/cost ratio reported in the 1986 GDM is 1.6:1 at an 8-5/8% interest rate, including CPE cost. Current estimates suggest the final benefit/cost ratio will approach 1.8/1.0.

Estimated average annual flood damages exceed $14,000,000 and affect both urban and agricultural land. The project will also protect an open irrigation canal system which transverses 210,000 acres of the world's most productive agricultural lands, Fresno County's gross annual production continually exceeding 2.0 billion dollars. The project will control the historic flooding which has seen the stream and canal systems overflow an average of once every four years.

The project was reported to Congress as House Document 98-147 and was authorized for construction through PL 99-662. The LCA has been executed and the local funding mechanisms put into place. To date the local sponsor has expended $8,905,102 in compliance with its LCA obligations to the Government. Because of the project's construction status, the requested federal appropriation is critical.

We appreciate the privilege of appearing before the Committee and the past support given the project. We urge your continued support and ask that our statement and the attached detailed presentation be made a part of the hearing record.

The people of the central county area of Fresno County, California are deeply appreciative of the opportunity to have the presentations of their representatives heard by the honored members of the Congress. While the Redbank-Fancher Creeks Flood Control Project is not large by some standards, it is critically important to the Fresno-Clovis metropolitan area which is the business center of the most productive agricultural county in the world, gross annual production continually exceeding 2.0 billion dollars.

This report, first submitted in May 1971, has been submitted annually to substantiate the continuing vital need for completion of the flood control works specified in the Redbank and Fancher Creeks project report.

AUTHORIZATION:

The Redbank-Fancher Creeks project is a modification of the existing Fresno County Streams, California authorization, incorporating the enlargement of the Big Dry Creek Dam and the containment of the balance of the stream group.

The Congress, on June 13, 1956, authorized the Corps of Engineers to reinvestigate the stream group project, this following the major floods of 1955 and 1956. Unfortunately, funds were not provided and the Corps did not begin the investigation until the area had suffered its worst flooding in history during January and February 1969. The release of funds and the start of the investigation occurred in July 1970, some fourteen years after Congressional authorization.

During July 1980, the Board of Engineers of Rivers and Harbors forwarded to the Chief of the Corps of Engineers the completed project report and environmental impact report. The report was forwarded to the Congress as House Document 98-147, bearing the date January 24, 1984. The project was authorized for construction pursuant to PL 99-662 and the LCA was executed with the local sponsor (the Fresno Metropolitan Flood Control District) on August 1, 1987. Construction was begun in FY 87 and is currently in progress. Completion is scheduled by FY 94.

PROJECT LOCATION AND NEED:

Redbank, Fancher, and Big Dry Creeks of the Fresno County Stream Group, their tributaries and related streams addressed by the project, are located on the western slope of the Sierra Nevada mountains. The watershed encompasses some one hundred seventy five square miles and generates storm runoff which flows through the heart of the metropolitan area. The flows impact directly on the open irrigation canal system which transverses some 210,000 acres of the world's most productive agricultural land and 95,000 acres of a densely developed urban community with a population in excess of 400,000.

It is currently estimated that the flood plain to be protected by the proposed project includes 51,000 acres with an estimated 1990 market value of 3.6 billion dollars. Total estimated average annual flood damages exceed $16,000,000 and affect both urban and agricultural properties.

HISTORY OF FLOODING:

As a result of the uncontrolled nature of the subject stream group, flooding has occurred frequently. Floods of record occurred in March 1938, December 1955, January 1956, January 1969, February 1969, March 1978, and January 1983. In addition, available records indicate flooding of lesser severity occurred in 1914, 1915, 1916, 1937, 1958, 1965, 1972, 1977, and 1986 with the streams and irrigation canal system overtopping their banks on the average of once every four years.

Although the floods of March 1978, January 1983, and February 1986 were of a lesser magnitude than those of 1969, thousands of dollars in damages to private homes, public roads, irrigation facilities and hundreds of acres of prime agricultural lands were experienced. Such floods again demonstrated the urgent need for final construction of the Redbank-Fancher Creeks Project.

LOCAL SUPPORT:

Following the floods of January and February 1969, the Fresno area was declared a federal disaster area. With the realization millions of dollars in flood damage could have been prevented and a recurrence of such floods would be even more devastating, a public hearing on the needed flood control works was held on February 18, 1969. Hundreds of citizens representing some seventy-five public and private organizations met and drafted resolutions to the U. S. Army Corps of Engineers and legislative representatives urging active pursuit of the Redbank-Fancher Creeks Flood Control Project. Subsequently, the County of Fresno, the Cities of Fresno and Clovis, the Fresno Metropolitan Flood Control District, and the Fresno Irrigation District, authorized direct work with the Corps and the Congress to secure adequate flood protection for the Fresno-Clovis metropolitan area.

In an effort to ensure the availability of lands needed for the required flood control structures, the County of Fresno acting jointly with the Flood Control District did, in 1974, effect open-space and conservation zoning of approximately 500 acres. In addition, the Cities of Clovis and Fresno, the County of Fresno, and the Flood Control District, signed contracts providing advanced funding to acquire the necessary project lands.

Relatedly, the California Water Commission has historically supported and continues to support the project. In addition, the State Reclamation Board submitted a supporting letter of intent for local assurances. Further, the California Legislature has enacted and the Governor has signed legislation authorizing State support of and financial participation in the project.

At the local level, a broadly based Citizens Project Advisory Committee was created by the Flood Control District. The Committee and the sixteen community organizations and agencies it represented reviewed and confirmed the project's need and design. The committee has also structured a financing plan to ensure the availability of the required local cost share and the equitable distribution of those costs.

ENVIRONMENTAL CONSIDERATIONS:

The federal project Environmental Impact Statement was finalized in July 1980 following a public hearing held in the project area by the Local Sponsor and the U. S. Army Corps of Engineers. Testimony submitted during the hearing indicated there were no areas of controversy associated with the project or its limited environmental impact. In summary, the testimony confirmed the accuracy of the Draft Environmental Impact Statement in identifying only limited impacts and the adequacy of the proposed mitigation measures.

In addition to the 1980 federal EIS, the Local Sponsor prepared a complete environmental impact report, dated July 1985, pursuant to the California Environmental Quality Act. That EIR and related subsequent reviews, including a supplemental environmental assessment, support the previous findings, further indicating one project component will directly benefit the cleanup of a downstream agricultural chemical plant. Final construction design of the unit has been coordinated among state, local and federal interests to maximize those benefits.

It is confirmed any adverse environmental impact which might be associated with the project would occur during the brief construction period. However, such impacts would be of a temporary nature and insignificant when compared with the permanent environmental and social benefits to be derived.

The congressional authorization of the project mandated that "The project shall include measures determined appropriate by the Secretary to minimize adverse effects on groundwater and to maximize benefits to groundwater, including groundwater recharge." The Corps of Engineers and the Flood Control District are now examining supplemental design investigations to address this Congressional mandate.

PROJECT FEASIBILITY AND FINANCING:

The completed project report, supplemented by additional engineering detail, substantiates the need for the project and identifies strong economic justification. The project costs and benefits, adjusted from the General Design Memorandum are as follows:

Total First Costs (1989)	$67,200,000	
Average Annual Costs (8-5/8%)		$6,014,400(*)
Total Average Annual Benefits:		
Flood Control	$ 9,021,600(*)	
Flood Proofing Cost Reduction	601,440(*)	
Total Average Annual Benefits		$9,623,040(*)

Benefit/Cost Ratio 1.6 to 1.0

(*) Estimates based on 1989 Construction Cost Estimates

Noteworthy is the fact the project is economically justified on the basis of flood damage reduction benefits alone. While other benefits are generated, they are not needed to produce a positive benefit/cost ratio. It should be noted that, while not included in the actual benefit calculations, the proposed project will create significant beneficial effects in the areas of water conservation, groundwater management, wildlife enhancement and recreation.

The distribution of the project costs, based on the new cost-sharing requirements, is as follows:

Federal Government (PL 99-662)	$50,400,000
State of California (SB 502)	11,760,000
Fresno Metropolitan Flood Control District (AB 2113) (Plus Annual O & M and Replacement)	5,040,000
Total Project Cost (1989)	$67,200,000

PROJECT COST SAVINGS:

It is significant to note the Corps of Engineers and the local sponsor have focused efforts in maximizing project design and construction efficiency. These efforts have led to certain structural reductions and construction coordination which produced a near 30% reduction in originally estimated project costs. While each of the project units meets a separate benefit/cost test, each of the units is interdependent as to hydrological operation and construction and the savings noted above are not fully achievable without the integrated construction and operation of all project units.

PROJECT STATUS REVIEW:

Subsequent to the submission of the project report to the Congress as House Document 98-147 in January 1984, much has been accomplished. Congressional enactment of PL 99-662 effected final project construction authorization, inclusive of flood control, recreation and water conservation purposes. The LCA was executed in a formal ceremony on August 1, 1987 and the first construction expenditures were approved by the President and the Congress in FY '87.

In FY '90 the fourth year of construction expenditures is scheduled. The construction activity completed to date, prior to FY '90, produced immediate flood protection benefits to the Friant-Kern Canal of the Bureau of Reclamation's important Central Valley Project. In addition, construction was begun on the Redbank Creek Detention basin which provides flood protection in areas near Fresno Air Terminal and in the southeast residential areas so badly flooded in 1969. The President's 1990-91 budget proposes fourth year construction funding in the amount of $7,500,000. This work will complete the Redbank Creek Basin and begin construction of the Fancher Creek Dam. This unit also protects lands near the airport, southeast Fresno, and key elements of the agricultural irrigation system.

In coordination with the Government's project schedule, the Flood Control District implemented the local project funding mechanisms in 1987-88, accumulating the funds required pursuant to the cost-sharing requirements. The first local payments were made to the Government in 1987. Relatedly, land acquisitions required for all phases of the project are now in excess of 80% complete. To date the Local Sponsor has expended $8,905,102 in compliance with its LCA obligations to the Government.

CONCLUSION: REQUEST FOR APPROPRIATION:

On June 13, 1989, thirty-three years had elapsed since Congress first authorized the proposed Redbank-Fancher Creeks Flood Control Project modification to the Fresno County Streams Project. The need for the project has been identified in a total of eight different studies and investigations performed at both the local and federal levels. The feasibility investigation confirmed the project need and identified strong economic justification for construction. Further, the more advanced and detailed technical analysis associated with the completed General Design Memorandum confirmed the project's need, economic strength, the previous recommendations of the Corps and the requests of the local community.

Because it is our belief the Redbank-Fancher Creeks Flood Control Project has met all requirements for federal participation and meets all current standards of economic justification and environmental protection, we most respectfully urge favorable action by the Committee and the Congress in appropriating continued construction funding for the Redbank-Fancher Creeks Flood Control Project.

PREPARED STATEMENTS FOR THE RECORD

Mr. Hill. Representatives of the Santa Ana Watershed Project Authority have filed their statement, as have Mr. Terry Paxton, director of engineering services, city of Sacramento, and Mr. Ben Austin, supervisor of Kern County. They have all filed their statements.

[The statements follow:]

STATEMENT OF SANTA ANA WATERSHED PROJECT AUTHORITY

The Santa Ana Watershed Project Authority (SAWPA) executed a contract for a General Investigation Program with the U. S. Bureau of Reclamation (USBR), entitled Santa Ana Watershed Management Study , on October 7, 1987. The project is expected to cover a period of three years with 50 percent of the funds appropriated by SAWPA and 50 percent matching funds from the U. S. Bureau of Reclamation.

The study, which is extremely important to the implementation of water management concepts, which will result in significant water conservation, was funded by the Congress during Fiscal Years 1987, 1988 and 1989 with appropriations of $150,000, and $138,000 respectively. The study has been funded in the President's budget for Fiscal Year 1991.

During the California Water Commission Hearings, week of February 1, 1990, the Water Commission did approve this matter for recommendation to the Congressional Delegation on behalf of SAWPA in the above-mentioned amount.

I plan to be in Washington D.C. March 28 - April 5, 1990, when your Committee will be holding hearings on the appropriation bill, and I respectfully request the opportunity to appear before your Committee in support of this very vital water management project. I am enclosing a summary of the Study which I will describe briefly as part of my testimony at the hearing.

We, at SAWPA, sincerely appreciate your assistance in scheduling the opportunity to appear before your Committee to testify on behalf of the SAWPA Project, and as part of the California State Water Commission presentation.

PROJECT SUMMARY

Mr. Chairman, my name is Roger Shintaku, Assistant General Manager of the Santa Ana Watershed Project Authority (SAWPA). I appreciate the opportunity to submit SAWPA's request for funding of a planning project under the general investigation program of the Bureau of Reclamation.

SANTA ANA WATERSHED MANAGEMENT STUDY
SAWPA is the local sponsor of the Bureau of Reclamation's Santa Ana Watershed Management Study. This important study could lead to a unified water management concept which could result in significant water conservation. The Santa Ana Watershed is currently losing thousands of acre-feet of water to the ocean while at the same time importing supplemental water at a cost of $200 per acre foot. This investigation will put in place the framework for reducing the need for supplemental water by full use of local supplies. The fiscal year 1990 budget includes an appropriation of $99,000 for this study as part of the Bureau of Reclamations general investigations program. We respectfully request support for continued appropriations of $99,000 to match local funding of the same amount in fiscal year 1990.

A summary is enclosed.

SANTA ANA WATERSHED MANAGEMENT STUDY

BACKGROUND

The Santa Ana River watershed comprises approximately 2,200 square miles in portions of San Bernardino, Riverside, Los Angeles and Orange Counties. It contains a population of about 3.5 million persons and is one of the fastest growing areas of the United States. Copious supplies of groundwater facilitated extensive agricultural development and urban growth. In recent decades, however, local water supplies were not sufficient to keep up with the demand, and now water is being imported into the area to supplement local supply. In the future, import water is expected to cost up to $300 per acre foot. Consequently, making optimum use of the basin's local supply is imperative.

A key element of the basin's water supply is the groundwater basin under the San Bernardino Valley, both because of the amount of water it provides for overlying agricultural and municipal purposes, and because of its potential to capture and hold spring runoff if storage capacity is available there.

The Santa Ana Watershed Project Authority was established to provide oversight of the water supply and quality of the entire basin. It functions as a cooperative union of five member agencies with together cover the entire basin, namely: Chino Basin Municipal Water District; Orange County Water District; Western Municipal Water District; Eastern Municipal Water District, and San Bernardino Valley Municipal Water District.

Recognizing that the management of the local water resources in the basin are not at an optimum and that improved management could yield more of this costly commodity than at present, SAWPA has requested that Reclamation conduct a planning study which would develop an operating plan that facilitates more efficient use of the local resource.

Numerous other water agencies and flood control agencies in the basin water resources and are thus also vitally interested in the prospects for improved management.

OBJECTIVES OF STUDY

The objective of the Santa Ana Watershed Management Study is to develop a program for the long-range management of the upper Santa Ana River Watershed, to achieve the greatest practical yield of water occurring locally in the watershed. In order to do this, coordinating groundwater recharge is necessary, using local and imported water with extraction of water for use in a flexible plan that can cope with years of high runoff and low runoff and reasonably meet all demands put on the groundwater basin. In other words, a plan should balance out the local water supply for wet and dry periods, which tend to occur in erratic cycles.

Based on past and present water supply conditions in the Basin, this objective is anticipated to involve the construction of physical facilities to extract water from basins and convey it elsewhere for direct use or for storage.

The ultimate product of this process would be a planning report which would, after public review, be submitted to Congress for authorization of Federal funding for works that need to be constructed. Integrated into this report would be sufficient documentation to satisfy the reporting requirements of the National Environmental Policy Act. Perhaps even more importantly, the report would contain a plan of operation for the Basin that would have the concurrence of involved water interests.

PROBLEMS TO BE ADDRESSED

The following problems will be addressed, individually or in combination, as part of the plan formulation process.

1. THe watershed sporadically looses large quantities of water to the ocean during periods of high runoff.

2. High water table in the San Bernardino area is causing damage to public and private buildings and aggravates the risk of seismic disturbance in the event of an earthquake.

3. A technical "overdraft" situation exists in the San Bernardino Groundwater Basin despite a surplus of water in the lower-elevation portion of the Basin. This stems from institutional constraint on remedies.

4. The groundwater basin in the Yucaipa area is overdrafted.

5. The Chino Basin has unused storage capacity for water, and is at the same time losing water from its lower-elevation areas.

6. Institutional barriers prevent exchanges of water which would provide fuller utilization of the local supply.

7. Groundwater pollution is occurring in certain areas of the basin and is degrading water quality, preventing its use for municipal purposes and degrading water quality in the lower part of the basin.

8. The basin is not self-sufficient in water supply, but relies on supplemental import water. The import water supply may be insufficient to meet short term needs during critical shortage periods.

STUDY PHASES

The Santa Ana Watershed Management Study will involve three successive phase. Generally, each phase will involve narrowing the range of alternatives under consideration, and increasing degrees of detail.

The first phase of the study will be to make a preliminary evaluation of the project to determine whether a viable solution exists. The evaluation will involve scoping the range of alternatives to be considered, a preliminary shakeout of alternatives to determine likely candidates, and the evaluation of one or two of the best to demonstrate that a viable solution exists. At the end of this phase, an Internal Preliminary Finding Memorandum will be prepared to present the results of this phase and recommendations on proceeding with more detailed study. A detailed plan of work for the remainder of the study will also be prepared, building upon the experience gained in the preliminary phase.

The second phase will involve the formulation and evaluation of definite project alternatives, using the preliminary alternatives as a starting point. A preferred alternative will be further refined and ultimately submitted to Congress for consideration of construction authorization. Toward the end of this phase, when the alternatives have been formulated and evaluated and a preferred project plan has emerged, a Plan Formulation Working Document will be prepared to document the process alternative. Based on the environmental analysis to this point, and a public scoping meeting, a decision will be made during this phase as to whether an Environmental Statement is needed for the project, or whether a simpler environmental assessment will suffice.

The third phase will involve refinement of the preferred alternative to add all the details needed to make it complete and fully capable of implementation. During this phase the planning report and integrated environmental document will be prepared for official public distribution.

STUDY ACTIVITIES
The following are the major activities to be performed during this study.

Review of Existing Studies. The various planning studies that have been prepared in connection with the basin will be evaluated and desireable features will be used to prepare a preliminary array of alternatives.

Water Supply and Demand Projections. Projections of future water demand and supply in the basin need to be prepared and evaluated.

Groundwater Basin Analysis. The San Bernardino Groundwater basin will be analyzed be means of available digital models. The various operating scenarios developed in connection with the various project alternatives would be analyzed both to help formulate the alternatives and to analyze there benefits. The groundwater management and use practices of numerous local water Districts.

Santa Ana River Basin Analysis. The river basin would be analyzed using available digital models, and this operation coordinated with the analysis of groundwater basin analysis.

Water rights Compilation. Water rights, adjudications and other agreements will be catalogued and abstracted in terms that permit their scrutiny in connection with the development and analysis of alternative management plan.

Water System Design and Costing. Water system features to move water from areas of high groundwater to other areas will be located and planning designs and cost estimates made.

Benefit Studies. The monetary benefits of the project will be estimated to determine the feasibility of the project.

Financial Analysis. A financial plan will be developed to show the amount of repayment required, and how funds for repayment would be generated locally.

Environmental Studies. Studies to determine the environmental impacts of the project will be completed. At present, the nature and scope of these potential impact are not known. They will probably include some minor effects on wetland, and the usual construction impacts. The U.S. Fish and Wildlife Service will be asked to evaluate the effects the project will have on wildlife habitat, and to provide recommendations during plan formulation.

Social Analysis. This will determine the social impacts and effects that need to be considered in decision making and plan selection. The planning process is an alternative process in which alternative are formulated first subjected to a preliminary analysis, then refined and subjected to more detailed analysis. Anywhere in the process changes may occur form suggestion or inconsistencies and generate additional alternatives to examine. In this framework, the activities cited above are done in increasing levels of detail as project plans gradually become more complete and refined.

GENERAL PRINCIPALS AND GUIDELINES
This will consist of formulating several meaningful alternative management plans and necessary project features. First, a plan or

plans would be formulated to best use available water resources and serve local needs without regard to institutional constraints. Then institutional constraints would be overlaid to identify constraints that might be relaxed or changed to permit best use of local water resources. Finally, after review of the results, several alternatives will be selected for evaluation and analysis.

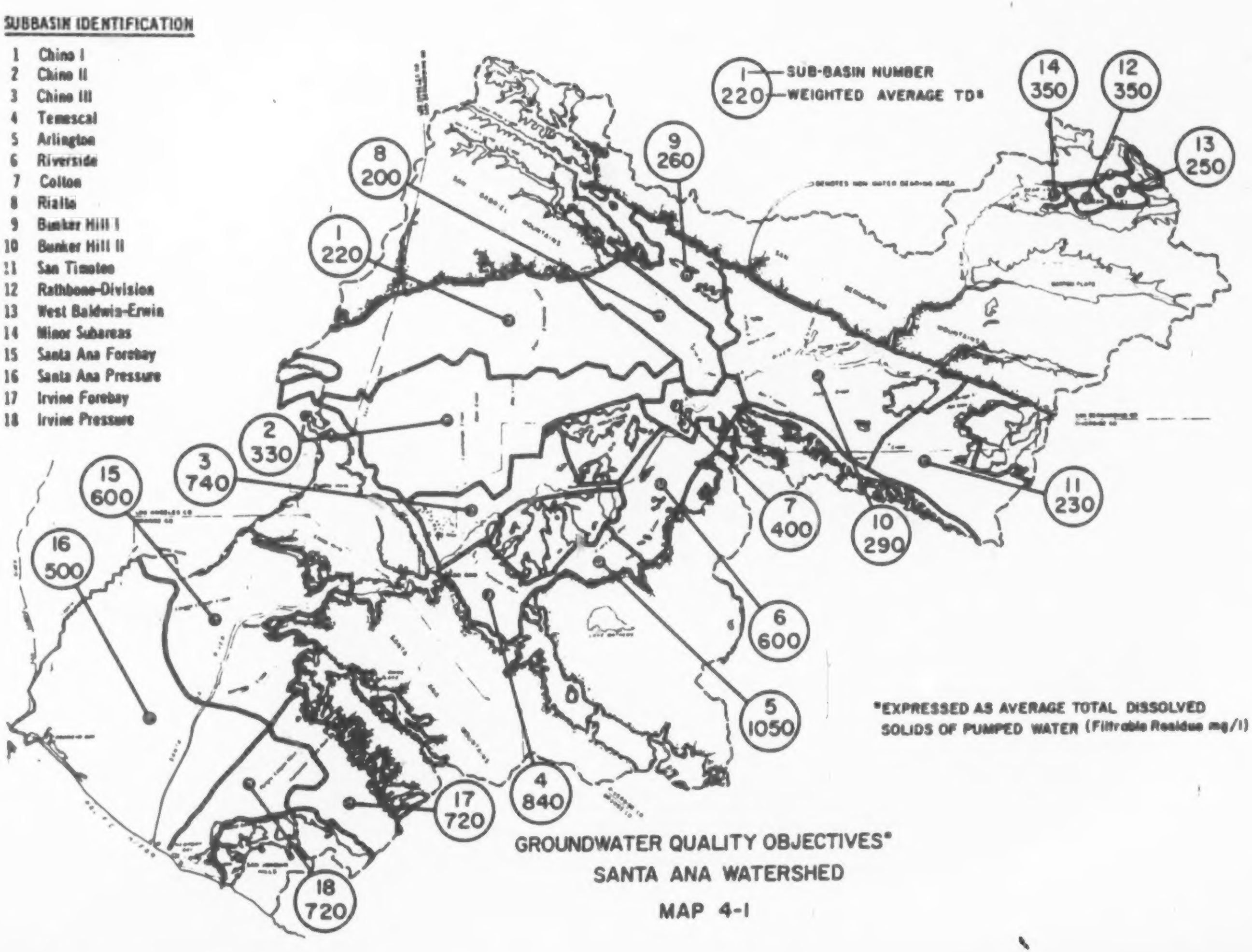
General criteria for formulating alternative are that: (1) Water originating in the basin would be used in the basin; (2) Equity be achieved among basin water users; and (3) The plan must meet the tests of completeness, effectiveness, efficiency, and acceptability, as defined in Federal Principal and Guidelines for Planning Water Resource Projects.

This planning study and formulation of a locally supported plan cannot be accomplished by Reclamation or any other agency alone. Reclamation will rely on a high degree of interaction and cooperation with local interests. At key times, personnel from SAWPA and its member agencies will work along side the U.S. Bureau of Reclamation planners in the formulation and evaluation of alternatives.

In accord with Federal guidelines for planning, the public will be kept informed of study activities and comments input on various issues will be sought for the study. A public meeting will need to be conducted to scope the environmental issues to be dealt with in the study, in order to comply with NEPA.

BUDGET

In-Kind Services: The local contribution to the San Bernardino Groundwater Project will consist partly of in-kind services performed or procured by SAWPA, its constituent agencies, or other local entities. Such in-kind services will include, but not be limited to the following: (1) Compiling and abstracting water rights and related local legal issues; (2) Adaptations of existing water supply operation models for use in the study, and providing them for use in the study; (3) Providing the services of various technical people form the staffs of local water agencies to work closely with the U.S. Bureau of Reclamation during various phases of the study; (4) Providing the services of outside experts in various phases of water management for participation with the U.S. Bureau of Reclamation planning activities as needed to assure a quality product; (5) Analyzing water quality aspects of project alternatives; (6) Making local arrangements for public meetings; and (7) Printing various public information and technical documents for use during the study.



SUBBASIN IDENTIFICATION

1	Chino I
2	Chino II
3	Chino III
4	Temescal
5	Arlington
6	Riverside
7	Colton
8	Rialto
9	Bunker Hill I
10	Bunker Hill II
11	San Timoteo
12	Rathbone-Division
13	West Baldwin-Erwin
14	Minor Subareas
15	Santa Ana Forebay
16	Santa Ana Pressure
17	Irvine Forebay
18	Irvine Pressure

1 — SUB-BASIN NUMBER
220 — WEIGHTED AVERAGE TD*
1 220
2 330
3 740
4 840
5 1050
6 600
7 400
8 200
9 260
10 290
11 230
12 350
13 250
14 350
15 600
16 500
17 720
18 720

*EXPRESSED AS AVERAGE TOTAL DISSOLVED SOLIDS OF PUMPED WATER (Filtrable Residue mg/l)

GROUNDWATER QUALITY OBJECTIVES*
SANTA ANA WATERSHED
MAP 4-1

STATEMENT OF SACRAMENTO AREA FLOOD CONTROL AGENCY

Dear Mr. Chairman and Members of the Subcommittee:

My name is Terry L. Paxton, Director of Engineering Services of the Sacramento Area Flood Control Agency (SAFCA) a joint powers organization formed in October 1989 with the specific objective to obtain regional solutions to the flood control problems facing the greater Sacramento area.

I appear before you on behalf of this agency which includes the City of Sacramento, Sacramento County, Sutter County, Reclamation District 1000, American River Flood Control District, Sacramento Area Water Agency and the Sutter County Water Agency. The constituency of these member agencies totals approximately 1.5 million of which 350,000 live in flood prone areas having depths of flooding of up to 25 feet.

I am here today to thank the Subcommittee on behalf of SAFCA and its constituency and to request your continued support of our projects. For the American River Watershed and the Sacramento Metropolitan Area Studies it is requested that the committee support reprogramming of funds, if necessary, to assure completion of these feasibility studies. It would appear that the amount of money set aside in the President's budget for the American and Sacramento River Preconstruction Engineering and Design and the Sacramento Urban Area Levee Reconstruction project is adequate for FY91.

Additionally we are requesting that $300 thousand be included in the President's budget to complete the environmental impact statement for the Folsom Reoperation Study under Operation and Maintenance General. The reoperation of Folsom Reservoir for a finite period will be an essential component of Sacramento's omnibus flood control program and we need to be fully prepared to reoperate at the time when the project is authorize, hopefully by October 1992.

The local funding for the American River Watershed Study has been included in the existing budgets of the various affected agencies and over $11 million is available to pay the locals' share of the non-federal cost of the Sacramento River Urban Area Levee Reconstruction Project. The various agencies have set this money aside in advance of its actual need in order that the project can be completed in as short a time frame as possible.

This stepping out and actually providing advanced cost shared funds prior their actual need demonstrates that we are united and committed to expediting additional flood protection to the greater Sacramento area. Another witness to this commitment was the development in early 1990 of a consensus on what type of upstream flood control facility that the Corps should continue to analyze in the American River Watershed Study. Both SAFCA and the State Reclamation Board, the local sponsor, have adopted resolutions requesting the Corps to continue their studies and consider constructing an expandable dam at Auburn and raising certain levees and controlling flows in the Natomas area as the locally preferred project.

Before closing I would like once more to express our gratitude to the Subcommittee and the Sacramento Area's Congressional Delegation, especially Congressmen Vic Fazio and Robert Matsui, for their strong support this last year in encouraging the Corps of Engineers to undertake, without delay, the reconstruction of the existing Sacramento River levee system. Additionally, I would like to state that the help and cooperation we have received this year from the Corps of Engineers in identifying and finding solution to our flood problems was commendable.

Thank you for your consideration and continued support.

STATEMENT OF SECOND DISTRICT, KERN COUNTY, CA

Dear Mr. Chairman and Members of this Subcommittee:

I am Ben Austin, Second District Supervisor of Kern County, California. With me is Stuart T. Pyle, General Manager of the Kern County Water Agency, the leading local sponsor for the Corps of Engineers' Caliente Creek Flood Control Project. We are here today to request a $250,000 addition to the President's Proposed Budget to continue work on the Caliente project. This money will be cost-shared by Agency, County and other local interests to continue the feasibility-level investigation of solutions to the Caliente flooding problem.

The feasibility report that was completed in December, 1988, recommended a single flood detention reservoir and two flood channels. During the Washington-level review of that recommended project configuration, previously unknown sedimentation problems were found, and have resulted in a determination that the recommended project is technically infeasible. We were officially advised of this determination by the Corps on February 9, 1990, at a meeting of the local Caliente Creek Flood Control Task Force.

We are disappointed, of course, but we are determined to go on. As you know, the Caliente project is the first federal project in the nation for which local interests cost-shared 50 percent for the feasibility study. Please be assured that we remain totally committed to resolving the Caliente flooding problem. We are willing to cost-share the work necessary to continue the feasibility study on other project alternatives and make a new recommendation. This time around, we will get the right project. We are right now negotiating to implement a two-phase cost-sharing agreement. We are proposing to implement the first phase now on work needed to confirm and finalize the sedimentation study results. The Agency and the County propose to make $30,000 in local payments through June of this year. We are working with the Corps to determine the extent of the sediment study costs, and we will commit the balance of our share of the studies in the next fiscal year. We expect to complete the sediment work by the end of this year, and will use our sediment conclusions to select the other project alternatives to pursue at the feasibility level. We will then negotiate the terms for and implement the feasibility-level work phase of the cost-sharing agreement.

Meanwhile, work continues among the Agency, the County, Arvin-Edison Water Storage District, Kern Delta Water District, Lamont Storm Water District and the City of Arvin to define and implement appropriate local institutional structure to assume the local cost-sharing responsibility for project construction costs and operation and maintenance functions. These local sponsors have already spent more than $1.3 million in cash and in-kind services to cost-share and facilitate the feasibility study.

Our Caliente Creek flooding problems may be small to the Congress and the Corps of Engineers, but to us, Caliente Creek is a major problem with recorded flooding since 1932. We cannot afford repetition of these devastating floods, which most recently occurred in 1978 and 1983, together causing more than $36 million in damages. Since those floods, the area is seeing extensive new urban development, a result of the Los Angeles-area overflow into many parts of Kern County. We have no choice but to find the right solution, and we need your help.

Mr. Chairman, we deeply appreciate your past support of the Caliente project, and urge your continued support.

LOS ANGELES COUNTY DRAINAGE AREA FLOOD CONTROL PROJECT

STATEMENT OF CARL L. BLUM, ASSISTANT DEPUTY DIRECTOR, DEPARTMENT OF PUBLIC WORKS, LOS ANGELES COUNTY, CA

Mr. HILL. Next is Mr. Carl Blum, assistant director, Los Angeles Department of Public Works.

Mr. BLUM. Good afternoon, Mr. Chairman. Los Angeles County strongly supports the budget allocations to the U.S. Corps of Engineers for the Los Angeles County drainage area project.

We are deeply appreciative for the continued support of this committee for this largest of all urban flood control systems. We strongly support the California Water Commission's recommendations to the committee for $2 million to fund the preconstruction engineering and design phase of this LACDA project. Because of the threat to public and private property caused by inadequacies in major elements of this flood control system within a primary population center of the United States, we further urge that Congress consider authorizing construction of the remedial work of this Federal project as soon as possible. Thank you.

Mr. HILL. Thank you very much.

[The statement follows:]

STATEMENT OF LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

Summary of recommendation by Los Angeles County Department of Public Works concerning budget allocations to the U.S. Army Corps of Engineers.

> Los Angeles County Drainage Area (LACDA) - We are deeply appreciative of the continued support of this esteemed Committee for this largest of all urban Flood Control systems. We strongly support the California Water Commission's recommendation to the Committee for $2 million to fund the Preconstruction, Engineering, and Design (PE&D) phase of the LACDA project. Because of the threat to public and private property caused by inadequacies in major elements of this flood control system within a primary population center of the United States, we further urge that Congress consider authorizing construction of the remedial work to the Federal project just as soon as possible.

Mr. Chairman and Gentlemen:

Floods are a part of the history of the Los Angeles basin. Widespread floods have periodically devastated vast areas of the basin and were responsible for the taking of lives, damaging property, and interrupting commerce and trade. The level of flooding was so great, that at times, the County was isolated from the rest of the nation.

The Corps of Engineers and County of Los Angeles, through its Flood Control District, have built one of the most extensive and sophisticated flood control systems in the world. Construction of the major elements of the system began in the 1930's. Since the major segments were completed, it is estimated that the system has prevented $3.3 billion in potential flood damage.

Development which occurred after World War II exceeded the projections the designers made in the 1930's and has increased runoff to the point where, even in a moderate storm, the runoff could exceed the design capacity of the system. Portions of the system are seriously deficient. For example, the lower Los Angeles River in the City of Long Beach can only carry runoff from a 40-year storm, and came close to overtopping in 1980. A flood of greater magnitude would have a tremendous impact, both personal and economic, on Los Angeles County, the nation's second largest metropolitan area.

Therefore, at the request of Los Angeles County, the U.S. Army Corps of Engineers has been analyzing the adequacy of the existing major flood control facilities serving the Los Angeles basin in the LACDA Review Study. In 1987, the Corps of Engineers completed the problem identification phase of the Study. We are pleased to report that the Corps has made tremendous progress in the past year and is rapidly nearing completion of this important Study.

The problem identification phase identified 100-year flood damages totaling $2.25 billion covering an 82 square-mile area which houses 625,000 people. A 500-year flood would inundate 193 square-miles and cause $5.1 billion in damages. All these damages would occur in the heavily urbanized Los Angeles basin.

These potential damages are similar to those identified for the Santa Ana River project in nearby Orange County. By comparison, in a 100-year flood, the Santa Ana River could flood a 60 square-mile area, causing $3.0 billion in damages, affecting 310,000 people.

To mitigate the flood threat of the Los Angeles River, the Corps of Engineers reviewed alternative solutions during the last several years. The Corps of Engineers conducted a feasibility conference in March of this year. Being considered at this time is a project involving increasing the effective height of the levees and raising some of the bridges along the Los Angeles River below South Gate and on the Rio Hondo channel south of Whittier Narrows Dam. This is anticipated to cost approximately $250 million. This project will have an extremely favorable cost-benefit ratio and provide protection from a greater than 100-year storm.

The Corps of Engineers has done an outstanding job of maintaining the schedule to complete the Feasibility Study by August 1990. Completion of the study should be followed by Preconstruction, Engineering, and Design (PED).

It is estimated that PED would take four and one half years with a total expenditure of $12 million. Therefore, we strongly urge that Congress include $2 million in the President's budget for Fiscal Year 1991 so plans can be developed and the project constructed as soon as possible. Because of the magnitude and seriousness of the problem, we also urge the Congress to consider authorizing construction of the remedial work at the earliest possible date.

Santa Ana River Mainstem Project

PREPARED STATEMENT

Mr. Hill. Next, the County of Orange has filed a statement. [The statement follows:]

STATEMENT OF ORANGE COUNTY, CA

A. SUMMARY

This is a request by Orange County, California for your support of an appropriation of $65 million to continue construction of the Santa Ana River Mainstem Project.

The U. S. Army Corps of Engineers considers the Santa Ana River to be the most critical flood threat in the West. The most severe flood likely to occur could kill 3,000 people and destroy property valued at $18 billion.

The Flood Control Districts of Orange, Riverside and San Bernardino Counties have entered into a Local Cooperation Agreement for the project to provide a minimum of 25% to the total project cost. Local Sponsors' costs are now estimated to equal 36% of the total project cost.

Orange County's share of this billion dollar project is about $445 million. Orange County has demonstrated its commitment to the project by allocating about $150 million to the project to date; this figure may reach $180 million or 40% of its share by the end of our next fiscal year.

In advance of Federal appropriations for construction or execution of a Local Cooperation Agreement, the Local Sponsors have initiated substantial land acquisition for the new Seven Oaks Dam, the expanded Prado Dam Reservoir and for lands at the mouth of the Santa Ana River. Orange County has spent about $13 million to date and plans to spend an additional $100 million for the balance of this and next fiscal year.

By these actions, Local Sponsors have demonstrated their commitment and willingness to contribute substantial monies to this critical project. Work currently under way provides the real estate and relocations needed to prepare the way for the Corps of Engineers to construct the project according to its current schedule. It allows the Corps to fully utilize the $65 million of Federal appropriations requested for fiscal year '91.

Your support of appropriations for continued construction of the Santa Ana River Mainstem Project is urged to provide its citizens of Orange, Riverside and San Bernardino Counties with urgently-needed flood protection as early as possible.

B. PREPARED STATEMENT

Mr. Chairman and Members, I am Gaddi Vasquez, Supervisor of the Third Supervisorial District of Orange County, California representing Orange County and the Orange County Flood Control District as one of the Local Sponsors which include Riverside and San Bernardino County Flood Control Districts for the Santa Ana River Mainstem Project.

The U.S. Army Corps of Engineers identifies the Santa Ana River as the most critical flood threat in the West. A major flood along the river would flood over 110,000 acres, endanger over 3 million people and 255,000 structures in Orange, Riverside and San Bernardino Counties. Such a flood could kill 3,000 people destroying property valued at $18 billion.

The total cost of the Santa Ana River Mainstem Project to provide flood protection is estimated to be about $1.3 billion. Orange County, as the major beneficiary, has a share of about $445 million.

The Orange County Board of Supervisors recognizing the flood threat from the Santa Ana River, the urgent need for protection and the need for greater cost-sharing by Local Sponsors has allocated about $150 million to support the Project over the past eleven years. This will increase to about $180 million or 40% of Orange County's total share in our next fiscal year.

Local Sponsors, in advance of a "construction-start" and a signed Local Cooperation Agreement, initiated substantial land acquisition and relocations. Orange County also advanced $3 million to the Corps of Engineers to accelerate preparation of the General Design Memorandum, Phase II to provide a firm base for a construction start and for final design of each feature of the project.

The Local Sponsors have entered into a Local Cooperative Agreement with the Department of the Army to provide all lands, easements, rights-of-way, relocations and disposal sites required for the project. Orange County spent about $11 million before the LCA was signed in December, 1989 and plans to spend an additional $100 million for the balance of this and next fiscal year. This work prepares the way for construction by the Corps of engineers in accordance with its schedule allowing the Corps to fully utilize the appropriations requested for Fiscal Year '91.

Work currently under way by the Local Sponsors includes surveying, right-of-way engineering, appraisals and land acquisitions for the Seven oaks Dam and mitigation lands at the mouth of the river. Orange County has initiated surveys for lands needed for the expanded Prado Reservoir and for widening the lower Santa Ana River Channel. Relocation of the Katella Bridge is completed and relocation of the Pacific Coast Highway, Talbert, Hamilton-Victoria and Orangewood Bridges as well as the Talbert Channel Outlet to the Ocean is in progress. Local Sponsors are jointly preparing for the relocation of the Southern California Edison Hydroelectric Plant at the Seven Oaks site.

We receive confidence in continuing work on the project by the fact that President Bush includes $65 million for continued construction on the SAR Mainstem Project in his Fiscal year 1991 Federal Budget. I believe Local Sponsors have demonstrated their support and commitment to the project to the extent of allocating funds and performing work in advance of any guarantee by the Federal Government. Therefore, consistent with the U.S. Army Corps of Engineers' concern for the serious threat to the Citizens of Orange, Riverside and San Bernardino Counties, we respectfully request your support of the $65 million for continued construction of the Santa Ana River Mainstem Project contained in President Bush's budget.

STATEMENT OF SANTA ANA RIVER FLOOD PROTECTION AGENCY

I am George Osborne, Executive Director of the Santa Ana River Flood Protection Agency, supporting a $65,000,000 appropriation to continue construction of the Santa Ana River Mainstem Project.

This Agency was formed in 1974 by a joint powers agreement after the Corps of Engineers revealed that its Prado Dam on the Santa Ana River does not have capacity to protect Orange County from a 100-year or even lesser floods. The Agency members include 21 Orange County cities, the Orange County Flood Control District, the Orange County Water District, the Orange County Sanitation Districts and the County of Orange. More than two million people are represented.

Prado Dam was completed in 1941 and was designed to protect Orange County from the then Project Flood of the Corps of Engineers. The Corps' reevaluation of the project, using rainfall data and procedures not available for the original design, predicts an uncontrolled spillway flow of 50,000 cubic feet per second (cfs) from a 100-year flood and 150,000 cfs from the new Standard Project Flood. Either of these uncontrolled flows would overwhelm downstream channel capacities and inundate thousands of homes which have been located on the historic Santa Ana River floodplain and built there in the belief that Prado Dam would contain Project Flood with a controlled release of only 9,200 cfs. The enormity of the problem is best measured by the Corps of Engineers' estimate of $12 billion property damage and the Orange County Grand Jury's prediction of a loss of 3,000 lives from the Standard Project Flood.

In January 1862, an extremely large storm system flooded wide areas of the southwest and in the Santa Ana River produced a flow estimated from old records at 300,000 cfs, a figure comparable with the Corps of Engineers' Standard Project Flood. It is recorded that in what is now Orange County, the Santa Ana River overflow produced a continuous sheet of water from the hills of Fullerton to the ocean, a distance of approximately 20 miles. A recurrence of this magnitude of flood prior to the completion of the Santa Ana River Mainstem Project would rank as one of America's largest natural catastrophes commanding country-wide headlines.

The Santa Ana River Mainstem Project should be constructed as soon as is humanly possible. The plan was formulated by and between the Corps of Engineers and San Bernardino, Riverside and Orange County Flood Control Districts over the 10-year period of the seventies and was authorized by Congress in 1986. The first appropriation to begin construction is being expended in the current 1989-90 year and $65 million is needed for 1990-91. The project enjoys the full support of three counties involved who have contracted (in 1989) to share the cost, furnish lands and easements and assume maintenance and liability obligations for the project.

Your Subcommittee's favorable action in reporting out the full $65 million for the Santa Ana River Mainstem Project, a truly urgently needed and meritorious endeavor, is most respectfully requested.

SANTA ANA RIVER MAINSTEM PROJECT

STATEMENT OF KENNETH EDWARDS, CHIEF ENGINEER, RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Mr. HILL. Next will be Ken Edwards, chief engineer, Riverside County Flood Control.

Mr. EDWARDS. Mr. Chairman, chief engineer of the Riverside County Flood Control and Water Conservation District. The Santa Ana River mainstem project progresses through our county and we are one of the local cooperation sponsors with Orange and San Bernardino counties.

The local cooperation agreement was signed in December 1989. Congress approved $20 million in fiscal year 1990 and construction is starting on this project finally. The President has recommended $65 million be appropriated to continue construction and we strongly urge the committee to approve that amount for fiscal year 1991.

I might say that between the three counties, we have accumulated some $160 million for the local share of this project, so we are ready to proceed rapidly.

In August 1989, the House public works committee adopted a resolution authorizing a study of the Whitewater River basin in Riverside County, CA. The President did not provide any funding, but we are requesting the committee to consider appropriating $340,000 for a reconnaissance study, primarily of the Whitewater River channel as a passage through the cities of Palm Springs, Rancho Mirage, Palm Desert, and Indio.

I would also like to request committee support in funding the small project continuing authority, as our district has a small flood control project, Lake Elsinore. The plans are approximately complete, and we are anticipating funds being available in the fiscal year 1991 continuing authority program so we can start that construction. Thank you very much, Mr. Chairman.

Mr. HILL. Thank you.

[The statement follows:]

STATEMENT OF KENNETH EDWARDS

SUMMARY RECOMMENDATIONS

SANTA ANA RIVER - MAINSTEM Construction - General	$65,000,000
WHITEWATER RIVER BASIN, CALIFORNIA Reconnaissance Study	$340,000
LAKE ELSINORE, CALIFORNIA Small Flood Control Project	

SANTA ANA RIVER - MAINSTEM

The Water Resources Development Act of 1986 (Public Law 99-662) authorized the Santa Ana River - All River project which includes improvements along the river in Orange County, enlargement of Prado Dam and Reservoir near Corona, California, construction of a new dam (Seven Oaks) near the entrance to Santa Ana Canyon, improvement of the Oak Street Drain Channel in Corona, California, improvement of Santiago Creek in Orange County and various mitigation features as set forth in the Chief of Engineers' Report to the Secretary of the Army. The Boards of Supervisors of Orange, Riverside and San Bernardino Counties are in support of this needed project and have so stated in past resolutions to Congress.

The Local Cooperation Agreement (LCA) was signed in December 1989 by the three local sponsors and the Army. Construction is starting on the Seven Oaks Dam in the Spring of 1990. This project element will take about six years to complete. Acquisition has also started on enhancement lands near the mouth of the river channel and the local sponsors have commenced acquisition of lands, easements, rights of way and disposal areas for Seven Oaks Dam and other elements of the project. The President has recommended that 65 million dollars be appropriated to continue this important long term construction project.

We strongly support the President's request for 65 million dollars to start this long awaited project and urge the Committee to approve the funds in the Fiscal Year 1991 appropriations.

WHITEWATER RIVER BASIN

The Whitewater River, as it flows through the Coachella Valley area of Riverside County, California, cannot contain large flood flows within its banks and thus can cause extensive damage in the event of a large flood. This area of Riverside County is experiencing rapid development. The river passes through the Cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert and Indio on its way to the Salton Sea.

In 1989, the House Committee on Public Works and Transportation, SubCommittee on Water Resources adopted a resolution authorizing a study of the Whitewater River Basin in the Coachella Valley.

The Coachella Valley Water District and the Riverside County Flood Control and Water Conservation District are requesting that a reconnaissance phase feasibility study be performed to evaluate flooding problems along the Whitewater River and some of its major uncontrolled tributaries to determine if flood control improvements are deemed feasible. If a project is found to appear feasible, the two Districts are prepared to participate in a 50/50 cost shared detailed Survey Report Study with the Corps of Engineers.

The Los Angeles District of the Corps of Engineers estimates that a reconnaissance study would cost $340,000. We request your committee approve $340,000 in the Fiscal Year 1991 Energy and Water Appropriation for the Whitewater River Basin reconnaissance study.

LAKE ELSINORE, CALIFORNIA

The Lake Elsinore Small Flood Control Project has been designed and is scheduled to start construction in Fiscal Year 1990. It is being funded through the Continuing Authority program. We ask your Committee and Congress to support sufficient funding in the Continuing Authority program for Fiscal Year 1991 to ensure funding of the Lake Elsinore Small Flood Control Project.

SANTA ANA RIVER MAINSTEM PROJECT

STATEMENT OF ROBERT L. HAMMOCK, FIFTH DISTRICT SUPERVISOR, COUNTY OF SAN BERNARDINO, CA

Mr. HILL. Our next speaker is Mr. Robert L. Hammock, supervisor, County of San Bernardino.

Mr. HAMMOCK. Mr. Chairman, I am here today to represent the county board of supervisors on a project critical to San Bernardino County. My prepared presentation has been provided for the record. So, respecting your time and your abilities, I will make just one quick point.

Of prime importance to my county, San Bernardino, as well as the adjacent counties of Riverside and Orange, is the Santa Ana mainstem project. Your support of the funding identified in the President's budget for fiscal year 1990-91 in the amount of $65 million will continue progress on developing much needed flood control improvements in the three counties.

As mentioned by Senator Wilson, over 3 million residents of those three counties are subject to severe and existing flood threat. It has been estimated that a major storm in the three counties would incur billions and billions of dollars in property damage. I request your support for our request. Thank you for the opportunity to testify.

Mr. HILL. Thank you very much.

[The statement follows:]

STATEMENT OF ROBERT L. HAMMOCK

Dear Chairman Johnston:

The Board of Supervisors of the San Bernardino County Flood Control District, State of California, appreciates the opportunity to bring the following critical flood control projects to your attention:

CORPS OF ENGINEERS

SANTA ANA RIVER MAINSTEM - Including Seven Oaks Dam, Mill Creek Levee, San Timoteo Creek, Oak Street Drain, and Santiago Creek.

This project is included in the President's Budget for FY 1990/91 in the amount of $65,000,000. Your support of funding will continue progress on developing important flood protection works for San Bernardino County, as well as Orange and Riverside Counties.

BUREAU OF RECLAMATION (Public Law 84-984 - Small Watershed Project Loan Program)

DAY CREEK WATER PROJECT - Federal funding of the $13.4 million loan on this $50 million flood control and water conservation project was completed during FY 1989/90. We wish to thank the committee for its past efforts in providing loan funding which has enabled the construction of flood control improvements to move forward in a timely manner. Thanks to your efforts, the project will be completed during FY 1990/91.

SAN SEVAINE CREEK WATER PROJECT - We take this opportunity to bring to your attention another important flood control and water conservation project for this County. A loan application is currently being processed by the Bureau for this project. Key features of the project are flood control and annual water conservation of an estimated 25,000 acre feet. We ask your future consideration and support.

The Board once again wishes to express its deep appreciation for your past and present support of these priority programs in San Bernardino County.

CORPS OF ENGINEERS

Santa Ana River Mainstem - "All River Plan" Project

Project Description

The Santa Ana River Mainstem - "All River Plan" Project when completed will provide the necessary flood protection for over two million people and hundreds of square miles of developed lands within Orange, Riverside and San Bernardino Counties. San Bernardino County area presently subject to overflow is shown in light blue on the adjoining aerial photo exhibit. To provide the urgently required protection the Corps of Engineers, along with San Bernardino, Riverside and Orange Counties as sponsors have entered into a local cooperation agreement on December 14, 1989 and planning to start construction in May 1990 improvements including Seven Oaks Dam, Mill Creek Levees and San Timoteo Creek Channel in the upper Santa Ana River watershed, and downstream improvements include the enlargement of Prado Dam, Oak Street Drain, Santiago Creek and thirty two miles of the Santa Ana River Channel from Prado Dam to the Pacific Ocean. San Bernardino County recommended improvements are also shown on the adjoining exhibit and a conceptual rendition of Seven Oaks Dam is superimposed on a photo of Santa Ana Canyon on the cover of this report. The completed project will also provide (a) enhancement and preservation of marsh land and wetlands for endangered waterfowl, fish and wildlife species (b) recreation amenities, and (c) flood plain management of the 30 miles of Santa Ana River between Seven Oaks Dam and Prado Dam.

Project Status

All planning/preliminary engineering studies have been completed including San Timoteo Creek. Construction on Seven Oaks Dam is scheduled to begin during the current Fiscal Year 1989/90. The mainstem project is scheduled for completion by the year 2001.

To continue construction of the project in Fiscal Year 1990/91, the Corps of Engineers will require $65,000,000 in federal funding along with cash contributions (approximately $6.3 million), lands and various services totaling $62.6 million from local sponsors.

The California Water Commission voted support of this project.

PROJECT AUTHORIZED:	Public Law 94-587, Section 109, Approved October 22, 1976 Public Law 99-662, Water Resources Development Act of 1986
TOTAL PLANNING AND ENGINEERING COST:	$26,100,000
TOTAL PROJECT COST:	$1.3 billion - Includes $440.5 million local share
STATE CALIFORNIA WATER COMMISSION RECOMMENDATION Fiscal Year 1990/91:	$65,000,000
PRESIDENT'S BUDGET Fiscal Year 1990/91:	$65,000,000
ACTION:	Approval of $65,000,000 by Appropriation Committees and Congress

DAY CREEK WATER PROJECT

Bureau of Reclamation Project

Project Description

The Day Creek Water Project is a Bureau of Reclamation "Small Project" under PL 84-984. The project provides for construction of the elements depicted in red and listed on the adjoining map.

The Bureau project will provide for a $13.4 million interest free loan to construct a portion of the improvements. The total project is expected to cost nearly $50 million, with the cities of Rancho Cucamonga and Ontario and the County of San Bernardino providing the remaining local interest portion through Mello-Roos Assessment and Redevelopment Agency funding sources.

When completed, the water conservation facilities will conserve an estimated 5,000 acre feet of storm run-off per year into the Chino Groundwater Basin to benefit agricultural, municipal and industrial water users in the Valley. As is known, the Basin safe yield is in an over-draft condition, which is replenished by importing water from northern California. This project would help reduce the need for purchasing imported water.

Project Status

FUNDING COMPLETED: We are pleased to announce the federal funding portion of the Day Creek Water Project is now complete. The last payment of the $13.4 million federal loan will be received in March of this year.

The project is now in its third year of construction and approximately $28 million have been spent. Construction will continue until approximately 1991, when it will be completed at an approximate total project cost of $50 million. Without the federal loan to assist in the overall funding program, we would not have been able to stay on our construction schedule, and complete the project in a timely manner.

Our deepest and sincerest thanks to the Committee for their ongoing support and funding approval.

BUREAU OF RECLAMATION

SAN SEVAINE CREEK WATER PROJECT

Project Description

The San Sevaine Creek Water Project is a Bureau of Reclamation "Small Project" under PL 84-984. The project provides for construction of the elements depicted in red and listed on the adjoining map.

The Bureau project will provide for a $29.6 million low interest loan to construct a portion of the improvements. The total project is expected to cost nearly $67 million, with the cities of Rancho Cucamonga and Fontana and the County of San Bernardino providing the remaining local interest portion through Regional Drainage Fees, Mello-Roos Assessment and Redevelopment Agency funding sources.

When completed, the water conservation facilities will conserve an estimated 25,000 acre feet of storm run-off per year into the Chino Groundwater Basin to benefit agricultural, municipal and industrial water users in the Valley. Presently, the Basin safe yield is in an over-draft condition, which is replenished by importing water from northern California. This project would help reduce the need for purchasing imported water.

Project Status

The Bureau Loan Application Report has been forwarded to the Secretary of the Interior for approval. All environmental issues have been addressed and related permits are in process. The project status and costs are depicted on the adjoining map.

Upon completion of the project phases currently under construction or funded for construction, all presently available local contribution funds of approximately $15.8 million will have been expended without completion of the project. The $15.3 million already committed exceeds the required Bureau of Reclamation local contribution of $14.9 million. Insertion of $5 million in the 1990/91 federal budget will allow continued construction of the project. Without these funds it will be several years before local interests can accrue sufficient funds to continue this vital project.

On September 1, 1989, and, again on March 2, 1990, the California Water Commission voted support of this project.

PROJECT AUTHORIZED:	Public Law 84-984, as amended 1956
TOTAL PLANNING AND CONSTRUCTION COST:	Approximately $3.5 million
TOTAL PROJECT COST:	Approximately $67 million
TOTAL PROJECT COST UNDER PL 84-984:	Approximately $44.5 million
STATE OF CALIFORNIA WATER COMMISSION RECOMMENDATION Fiscal Year 1990/91:	Support
PRESIDENT'S BUDGET Fiscal Year 1990/91:	-0-
REQUIRED ACTION:	Project Support by Appropriation Committees and Congress

MINUTES OF THE BOARD OF SUPERVISORS

OF SAN BERNARDINO COUNTY, CALIFORNIA

FEBRUARY 26, 1990

On motion of Supervisor Walker, duly seconded by Supervisor Turoci, and carried, the following resolution is adopted by the Board of Supervisors of the County of San Bernardino, State of California:

RESOLUTION NO. 90-54

WHEREAS, on March 2, 1990, the State Water Commission will adopt final recommendations for Fiscal Year 1990-91 funding for Federal Water and Flood Control Projects; and

WHEREAS, these recommendations will be submitted to the Congressional Appropriations Committee; and

WHEREAS, the Santa Ana River Mainstem project is needed to solve serious flood control problems in San Bernardino County, Riverside and Orange Counties;

NOW, THEREFORE, BE IT RESOLVED that the San Bernardino County Board of Supervisors strongly supports and recommends the following project to the California Water Commission, the United States Senate Committee on Appropriations-Sub-Committee on Energy and Water Development, and the House of Representatives Committee on Appropriations - Sub-Committee on Energy and Water Development.

PROJECT	PRESIDENT'S BUDGET	S.B. COUNTY RECOMMENDATION FEBRUARY 26, 1990
U.S. ARMY CORPS OF ENGINEERS		
SANTA ANA RIVER MAINSTEM - "ALL RIVER PLAN" INCLUDING SEVEN OAKS DAM, MILL CREEK LEVEES, SAN TIMOTEO CHANNEL, AND PRADO DAM AND RESERVOIR	$65,000,000	$65,000,000

PASSED AND ADOPTED by the Board of Supervisors of the County of San Bernardino, State of California, by the following votes:

AYES: SUPERVISORS: Turoci, Mikels, Walker, Riordan

NOES: SUPERVISORS: None

ABSENT: SUPERVISORS: Hammock

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STATE OF CALIFORNIA
COUNTY OF SAN BERNARDINO } ss.

I, EARLENE SPROAT, Clerk of the Board of Supervisors of the County of San Bernardino, State of California, hereby certify the foregoing to be a full, true and correct copy of the record of the action taken by said Board of Supervisors, by vote of the members present, as the same appears in the Official Minutes of said Board at its meeting of 2/26/90 lw #52 Resolution No. 90-54

EARLENE SPROAT
Clerk of the Board

By ____________ Deputy

Santa Barbara County Streams, Lower Mission Creek Project

STATEMENT OF MAYOR SHEILA LODGE, MAYOR, CITY OF SANTA BARBARA, CA

Mr. Hill. Our next speaker is Ms. Sheila Lodge, mayor of the city of Santa Barbara.

Ms. Lodge. Mr. Chairman, although Santa Barbara is currently experiencing the driest year of this century—we have had droughts and we have had floods in the past—Corneros Creek has flooded and left only the city's airport terminal above water at the airport, making the airport inoperable. This project will also protect significant amounts of industry and keep a slough from degradation. Mission Creek runs through downtown Santa Barbara. It floods on the average once every 3 years, causing great loss to businesses and residences. We respectfully urge your support of the Corneros and Mission Creek projects and thank you for your past support.

Senator Johnston. This has been a dry year, this winter, in California?

Ms. Lodge. Excessively dry; yes. We had about one-third of the normal amount of rain that we would have in Santa Barbara, and this is on the heels of 5 years, with 1 year close to normal range.

Senator Johnston. Wasn't there pretty good rain up in the Sierras?

Ms. Lodge. Not enough to make a difference. Because of the continuation of the drought, all of the reservoirs are low. Our own large one is down to 25 percent of capacity. The city's own reservoir is empty.

Mr. Hill. Thank you very much.

[The statement follows:]

STATEMENT OF SHEILA LODGE

Dear Senator Johnston:

The Santa Barbara City Council respectfully requests your support for the $550,000 appropriation proposed by the U.S. Army Corps of Engineers in the Fiscal Year 91 budget for the Santa Barbara Mission Creek Channelization Project. This appropriation will allow for continued development of the General Design Memorandum which is scheduled for completion in Fiscal Year 92 on this very worthwhile and much needed flood control and channelization project in the City of Santa Barbara.

The Corps of Engineers completed the Feasibility Report and Environmental Impact Statement for lower Mission Creek in 1986, which fully documented a severe and chronic flooding problem which can be solved by the channelization of Mission Creek with a project which considers and mitigates sensitive environmental areas.

Mission Creek presently overtops its banks on the average of once every three years, causing damage, disruption and economic loss to the residential and business community of Santa Barbara. Approval of funding for the project design will be a big step towards solving a long standing flooding problem.

Your assistance in voting for this project will be appreciated.

SAN LUIS REY RIVER FLOOD CONTROL PROJECT

STATEMENT OF LARRY BAGLEY, MAYOR, CITY OF OCEANSIDE, CA

Mr. HILL. Our next is Mayor Larry Bagley, city of Oceanside.

Mr. BAGLEY. Thank you, Clair.

Mr. Chairman, I am here to ask the committee's support for the President's budget appropriation of $5.5 million for the San Luis Rey River. This is the third year of appropriation for construction. Since its authorization in 1970, there have been some design modifications necessitated, and the Corps of Engineers does inform us that potentially this may exceed the appropriation limits by the time the project is completed. So we are asking for the support of the committee in the appropriation and also to permit the modification so that we can complete this project. Thank you.

Mr. HILL. Thank you.

[The statement follows:]

STATEMENT OF LARRY M. BAGLEY

The City of Oceanside is requesting that Congress appropriate $5.5 million, as recommended in the Administration's proposed FY1990 budget for the continuing construction of the San Luis Rey River Flood Control Project. Reach 1 (from the Pacific Ocean to Priory Road) and the environmental mitigation for the project were completed in May, 1989.

The San Luis Rey River Flood Control Project is needed to protect more than 4,000 homes and over 100 businesses in the San Luis Rey valley from the risk of devastating floods. Recent illegal excavations in the channel have further heightened the flood risk for public facilities and properties along the river. Consequently, the need to proceed with construction of the project is even more critical this coming year.

The San Luis Rey River Flood Control project is both economically and environmentally justified. Changes in project conditions have required the Corps of Engineers to re-evaluate certain design features of the project and the phasing of construction. However, the $5.5 million can be expended on a portion of the project not subject to redesign. Ultimately, those modifications will result in a better, economically justified project.

Due to changed conditions in the San Luis Rey River, the revised project may exceed the federal expenditure limit established under Section 201 of P.L. 89-298. Consequently, the City of Oceanside requests that the Subcommittee modify the project to provide that the authorized cost of the project at October, 1989 price levels is $60 million.

The San Luis Rey River Flood Control project enjoys broad public support. Both the City of Oceanside and the U.S. Army Corps of Engineers have worked closely with property owners affected by the project to ensure that the project minimizes private harm while at the same time meeting all regulatory and environmental statutes.

The City of Oceanside requests your continued support for this vital project.

MERCED COUNTY STREAMS, CALIFORNIA

STATEMENT OF TIMOTHY McCULLOUGH, CONSULTANT, MERCED COUNTY ASSOCIATION OF GOVERNMENTS

ACCOMPANIED BY JAY ANDERSON, CONSULTANT, MERCED IRRIGATION DISTRICT, MERCED COUNTY, CA

Mr. HILL. Our next is Tim McCullough, consultant, Merced County Association of Governments.

Mr. MCCULLOUGH. Mr. Chairman, Supervisor Davenport sends his apologies for not being able to be before you today. In his place he sent myself with the Merced County Association of Governments and Jay Anderson with the Merced Irrigation District.

We are here again to solicit your support for the Merced County streams project. We are in the construction phase of the project, and we wish to support the water commission's request for $1.9 million.

It is interesting to note that the first phase is the construction of Castle Dam, to which we expect to actually be moving dirt by July. The local community has already contributed toward this $9 million first phase a sum of $2.6 million. So we are very committed to this project, and we thank you for your past commitment. Thank you very much.

Mr. HILL. Thank you.

[The statement follows:]

STATEMENT OF TIMOTHY McCULLOUGH

Greetings from the Board of Supervisors of Merced County, California. It has been said that it is hard to remain committed to a flood project in the middle of a four year drought. But, committed we remain, for history has taught us that flooding will return and that lives and property will be destroyed unless the Merced County Streams Project is completed. Thus we are motivated to remain steadfast in our resolve.

My name is Wyatt Davenport, and I am the Supervisor of District Number One, County of Merced, California. I would like to take just a moment to reflect on past accomplishments, but more importantly to solicit your continued assistance in seeing this all important project completed. For now, this means supporting the President's FY 90/91 budget request of $1,900,000 for constructing the Castle Unit of the Streams Project. Over the long haul it means continuing our march to total project completion, making modifications along the way where conditions warrant, while complying with the economic and environmental realities of our ever changing community.

A year has passed since we have had an opportunity to appear before you and much has transpired in the furtherance of providing flood protection. Negotiations have been completed and agreements signed between the Corps of Engineers, the State of California and the County of Merced. These agreements clearly identify agency roles and responsibilities for cost sharing, land acquisition and future operation and maintenance. The Corps of Engineers assures us that they have finalized design of the Castle Dam Unit and will have that unit under construction by late spring. In preparation for this construction the State and County have funded land acquisitions and the process of land transfer is well underway. However, before dirt can be moved, assurance of federal funding must be realized. The Corps of Engineers has identified, and the President has recommended next years project requirements at $1,900,000. Thus the reason for my journey. We again need the support of this Committee for the inclusion of this amount in the FY 90/91 budget.

The County of Merced together with the State of California are not alone in their support for the project. We are joined in this effort by the City of Merced, the Merced and El Nido Irrigation Districts, and the Le Grand-Athlone Water District.

The Merced County Streams Project is a modification and expansion of an earlier flood project constructed between 1948 and 1957. It has undergone considerable review and modification since first authorized as part of the Flood Control Act of 1970.

Approximately $9,000,000 has been spent to-date on planning and design by the Corps of Engineers. This has been matched by local contributions in the approximate amount of $2,600,000. As true partners in financing the construction of this project, we have worked closely with the Corps to establish an economic balance between benefits and costs. As a result of this combined effort, non-essential project components were first scaled back and eventually eliminated. This scaling to fit the economic reality resulted in substantial federal and local savings.

Federal authorization for project construction was granted as part of the Supplemental Appropriations Act of 1985, which limits construction to facilities on Canal (Castle Dam) and Black Rascal Creeks (Haystack Mountain Dam), enlargement of Bear Creek Dam and modification of levies and channels along approximately 33.4 miles of Fahrens, Black Rascal, Cottonwood, and Bear Creeks. When completed the project will provide flood protection worth approximately $8,021,000 per annum to 158,000 acres of urban and agricultural lands. Total project cost is approximately $100,900,000, of which $30,400,000, or roughly 30%, will be paid during construction by the local beneficiaries.

When completed 60,000 residents of metropolitan Merced will live with the assurance of 125 year flood protection, while the lower rural area will receive twenty-five year protection. Castle Air Force Base, a major installation of the Strategic Air Command will also benefit through the establishment of a local storm run-off discharge capability in adjacent streams. Partial protection to the Base is currently provided by diverting Base run-off into the canal system of the Merced Irrigation District. This practice has not only caused past damage, but has added to the threat of flooding to adjacent communities.

Agricultural productivity within the project area is devoted to orchards, vines, and row crops. This represents some of the finest irrigated agricultural land of California's San Joaquin Valley. Agricultural units are predominately single family, and our farmers pride themselves on being self reliant. Less than 2% of the project area is devoted to growing subsidized crops. Water storage and irrigation works were planned, constructed, and managed operated without federal assistance.

Together we have completed the arduous task of project planning. It is now time for us to take the next step, that of construction. In order for this to happen, your support is needed.

Earlier this year the California Water Commission voted to recommend supporting a federal FY 90/91 budget request in the amount of $1,900,000 for the Merced County Streams Project. This coincides with the amount requested by the President. We ask that you again show your support by requesting that $1,900,000 be placed in the U.S. Army Corps of Engineers Fiscal 90/91 projects budget for continuing construction of the Merced County Streams Project.

Thank you,

ADDITIONAL PREPARED STATEMENTS SUBMITTED FOR THE RECORD

Mr. HILL. Mr. Chairman, the rest of our witnesses have filed their statements covering various projects. I would ask that they be made part of the hearing record.

Senator JOHNSTON. Without objection, they will be incorporated in the record. Thank you very much, Mr. Hill. We appreciate your testimony. We will try to arrange for rain in the next few weeks.

Mr. HILL. Please do.

[The statements follow:]

STATEMENT OF VENTURA COUNTY AND VENTURA COUNTY FLOOD CONTROL DISTRICT, CALIFORNIA

My name is John K. Flynn. As a member of the Ventura County Board of Supervisors, I represent the County and the Ventura County Flood Control District.

I am appearing today to urge your inclusion of $200,000 of construction funds for the Santa Paula Creek, California Project, and $400,000 to continue the general investigation of the Calleguas Creek, California Project in the FY 91 Energy and Water Development Appropriations Bill.

Santa Paula Creek

The Santa Paula Creek Project was authorized in 1948. The project would provide standard project flood protection to the City of Santa Paula and environs.

The project consists of approximately three miles of concrete lined channel and a debris basin. Construction of the first phase of the project was completed in 1974. Before second phase construction began, opponents of the project filed suit to enjoin further construction. The court found the Army Corps of Engineers had failed to comply with the procedural requirements of the National Environmental Policy Act in the preparation of the project EIS, and that further construction should not proceed until these requirements were met.

In 1977, the Corps proceeded with reformulating the project and preparing a supplemental EIS to comply with the court's decision. In doing this, the Corps determined that the project benefit cost ratio had dropped below unity and in 1981, ceased work on the project.

However, the Corps now believes that because of the extreme hazard to life and property and current conditions of development in the area, the project economics should be reevaluated. The cost for FY 91 is $200,000.

Calleguas Creek

After the March, 1983 levee breaks and flooding along lower Calleguas Creek, Congress appropriated $750,000 for a three year study for flood control improvements to the creek.

Near the end of the study when it appeared that a federal project would be justified, the Corps of Engineers determined that its principles and guidelines would not permit it to count certain "agricultural intensification benefits" for the project. The local interests disagreed with the Corps' determination and retained a team of agricultural economists to review the Corps' work. The review showed that the Corps had erred in its determination that "agricultural intensification benefits" not be counted. This, together with new opportunities for environmental enhancement to Mugu Lagoon, appear to make a project feasible The cost to continue study for FY 91 is $400,000.

STATEMENT OF THE UNITED WATER CONSERVATION DISTRICT, VENTURA COUNTY, CA

Good Afternoon. My name is Lynn E. Maulhardt, President of the United Water Conservation District Board of Directors from Ventura County California

United Water Conservation District (see map on next page) manages the surface and groundwater resources within a 214,000 acre-area in central Ventura County. The area is experiencing a multi-year drought and water rationing among the growers and cities has been imposed recently to help reduce the heavy overdrafting on our aquifers. As a result of previous federal assistance, United has been able to continue construction of the Freeman Diversion Improvement Project which will increase our yield from the Santa Clara River by over 25%.

This statement is not in support of specific funding for the upcoming fiscal year but rather, is an expression of thank you for your past support for the Freeman Diversion Improvement Project which is currently under construction. United has received approximately $18,700,000 of Federal funds under the Small Reclamation Projects Act and we are pleased to inform you that progress has been good and we expect to complete the project in early 1991.

Because of mandated project changes since the loan application was taken out in the early 1980'S, costs have escalated and we are preparing a cost escalation report for the Bureau of Reclamation for which we request your future support.

On the 3rd page, I have enclosed a recent photo illustrating progress in construction of this project and for which we are indebted to the Federal Government and its staff from the Bureau of Reclamation for their professional, effective support. Thank you.

STATEMENT OF MONTEREY COUNTY, CA, FLOOD CONTROL AND WATER CONSERVATION DISTRICT

The Monterey County Flood Control and Water Conservation District respectfully requests your committee to approve for Fiscal Year 1990-91, $180,000 for cost shared funding for the general investigation study through the US Bureau of Reclamation to develop the Salinas Valley Water Resource Management Plan. The Study will be conducted in a three-year period at a total cost of $1,000,000 to be shared in equal amounts by the Bureau of Reclamation and the District.

The Salinas Valley Groundwater Basin, located on the Central Coast of California, contains 640,000 acres of fertile farm land that is currently threatened by overdraft causing seawater intrusion and declining groundwater tables. In addition, there is a nitrate contamination problem and a continuously increasing demand for water supply for agricultural, municipal, and industrial uses. The rapidly increasing and competing demands for the existing limited supply and usable quality water has created an urgent need to develop a long range Salinas Valley Groundwater Basin Management Plan. This Basin Management Plan will provide guidance for management options in preserving and providing water supply in an equitable manner for beneficial uses to both agricultural and the growing municipal and industrial uses.

As a result of the agricultural and urban development along the Monterey Bay coast, thousands of acres of wetlands have been lost. There is strong pressure to restore wetlands that once existed at the mouth of the Salinas River and adjacent areas. Within the study area there is a competing need for water by the US Fish and Wildlife Service for refuges, the Salinas River Lagoon, the Elkhorn Slough National Bird Sanctuary, and the Ventana Wilderness Area. These wildlife areas provide habitat for 27 threatened and endangered species.

The Salinas Valley is nearly 100% dependent on groundwater supply to meet the demands of all agricultural, municipal, and industrial needs. Intensively irrigated agricultural operations are the mainstay of the local economy. The Salinas Valley Groundwater Basin is also the sole provider of water to the US Army Installation located at Fort Ord, with a base population of about 23,000. Recently Fort Ord abandoned their groundwater wells near the coast due to seawater intrusion and drilled new wells inland adjacent to intensively irrigated agricultural lands. The farm economy in the Salinas Valley is not in a condition to bear the total cost of the investigation study to develop the sorely needed Basin Management Plan.

Your assistance in providing the District the resources to stop the seawater intrusion and to preserve the Salinas Valley Groundwater Basin will allow for the beneficial use of our precious water supply for future generations. The goal of this study is to promote controlled, long-term growth and economic prosperity of Monterey County and all of its citizens.

PROJECT TITLE: Salinas Valley Water Resources Management Study

OBJECTIVES: The objectives of the study are to:

1. Develop a long-range "Water Resource Management Plan" for the Salinas Valley Water Basin.

2. Develop an acceptable restoration program for thousands of acres of wetlands that once existed at the mouth of the Salinas River and adjacent areas.

3. Develop and analyze potential structural and non-structural alternatives for water supply and quality in the Salinas Valley Water Basin.

4. Optimize the beneficial use of existing and potential ground and surface water resources in the Salinas Valley Water Basin.

PROPOSAL: The Monterey County Flood Control and Water Conservation District (District) is seeking cost sharing Federal funding from the US Bureau of Reclamation for a three year planning study. Funding is requested under the Bureau's General Investigation Program designation for a new start project. The project will result in a detailed Water Resource Management Plan for the Salinas Valley area to conjunctively manage surface and groundwater, and solve water quality and water supply problems.

SUMMARY: The Salinas Valley in the County of Monterey California is totally dependent on groundwater supplies to meet the demands of agriculture, municipal, and industrial users. With the increase of agricultural, municipal, and industrial users, the Salinas Valley Water Basin is experiencing additional pressure on an already overdrafted basin causing water levels to become lower and seawater to continue intruding into the confined coastal aquifers. With more water demand than current supply, the District must ensure water quality and quantity for all the users in the Salinas Valley. To meet this broad objective, the District requires the following:

1. The development of a data base and computer analysis capability and a computerized groundwater model for the entire Salinas Valley Water Basin to analyze various water use scenarios for all users.

2. The development and analysis of potential structural and non-structural alternatives for addressing water supply and quality issues.

3. A Salinas Valley Water Basin Management Plan for the long term use of water for the Salinas Valley.

BACKGROUND AND PROBLEM: The Salinas Valley is a highly productive agricultural area of national importance. The valley provides a great percentage of domestically produced table crops and raw eaten vegetables. The area is facing increased competition between water uses for what is an increasingly scarce resource.

The Salinas Valley is nearly 100% dependent on groundwater supplies to meet the demands of all agricultural, municipal, and industrial users. Agricultural water requirements represent about 90% of the Salinas Valley Water Basin demands.

The Basin also provides the water supply for the municipal and industrial needs of several small cities in the Salinas Valley with a combined population of about 200,000. In addition the Basin provides water needs for the Federal installation at Fort Ord with a base population of about 23,000. Recently, Fort Ord abandoned their water wells near the coast due to seawater intrusion and drilled new wells inland at locations where there already exists intense irrigation pumping. The percentage of municipal and industrial demands continues to increase, placing additional pressure on an already overdrafted Basin.

Water quantity issues are further complicated by problems related to water quality. Groundwater protection has become increasingly important. Overdraft is resulting in declining water levels in the unconfined portions of the Basin, and is causing seawater intrusion in the coastal aquifers. Nitrate contamination is also occurring at a rapid rate throughout the Salinas Basin, further serving to constrain the management options available for providing municipal and domestic supplies. Given the relative scarcity of the water resources, there is increasing competition between all beneficial uses.

The purpose of the work is to clarify the local water resource issues and define long-term water management goals and objectives. This work will include definition of structural and non-structural alternatives for addressing the long-term water resource issues. The goal is to promote the long-term growth and economic prosperity of Monterey County and all of its citizens.

THREE YEAR DEVELOPMENT PLAN:

YEAR I: Plan Development

1. Identify issues, refine and prioritize problem statements, and analyze constraints. Constraints can best be defined in two broad categories; technical and social. Technical water resources constraints regard issues of quality, quantity, timing, and location. Social issues involve economic, legal, organizational, and political constraints. Effective management alternatives and goals should be developed based on technical and social constraints.

2. Develop data base and computer analysis capability. The utility of the existing District data and computer data base will be evaluated. The computational and analytical capability and tools available to the District will be assessed and specific analytical computer models will be developed, or existing models improved.

YEAR II: Alternatives Analysis

Generate structural and non-structural alternative solutions and define a range of methods for managing the available water supplies of usable quality.

Methods for achieving optimum use of existing supplies shall be investigated. Some of the alternatives to restoring the groundwater and hydrologic balance include:

Wetland restoration programs
Conjunctive use programs
Wastewater reclamation
Conservation programs
Water importation through the San Felipe Project
Reservoir construction
Water banking
Artificial recharge programs

These alternatives will be analyzed and compared using the technical and social constraints and issues developed in Year I.

YEAR III: Feasibility Study

Preparation of the final Salinas Valley Water Basin Management Plan.

Detailed engineering and economic feasibility analysis and determination of project benefit cost ratios. Investigation and development of financing methods.

Preparation of Draft Environmental Documents and response to public comments. Selection of preferred alternative. Adoption of final plan for implementation.

FUNDING ESTIMATES:

SOURCE	FY 89-90	FY 90-91	FY 91-92	AGENCY TOTALS
USBR	$180,000	$160,000	$160,000	$500,000
DISTRICT	$180,000	$160,000	$160,000	$500,000
FY TOTAL	$360,000	$320,000	$320,000	
PROJECT TOTAL				$1,000,000

Local cost sharing will be provided by the District and will consist of direct and "in kind" funding.

STATEMENT OF SANTA BARBARA COUNTY, CA, FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Dear Chairman Johnston:

Request

The Santa Barbara County Flood Control and Water Conservation District as local sponsor respectively requests a $300,000 appropriation in FY 1990-91 to initiate the Corps of Engineers Preconstruction, Engineering and Design (PED) for the Carneros Creek Project located in the Goleta vicinity of Santa Barbara County, California. The PED would require 21 months to complete at a total cost of $950,000.

Executive Summary

The Carneros Creek Plan consists of a debris basin and detention basin that would provide flood protection to the Santa Barbara Airport as well as commercial and industrial areas that house high-technology, research and development and data processing firms. In addition, the project will reduce the flooding of and enhance water quality conditions in the Goleta Slough.

The Carneros Creek Plan was a part of a previously authorized (1970) project in the Goleta Valley of Santa Barbara County. However, the previously authorized project was neither publicly accepted nor economically justified. The results of a re-evaluation study recommended a focused Carneros Creek Plan as an economical solution for providing standard project flood protection.

Because of the significant difference in scope between the authorized plan and the recommended Carneros Creek Plan, new authorization is required. Authorization of the Carneros Creek Project via the Water Resources Development Act of 1990 would allow for construction to begin subsequent to the completion of Preconstruction, Engineering and Design. The total project cost, including PED, is estimated to be $5.8 million.

The Carneros Creek Plan is a result of over 20 years of public involvement and coordination. This project is both needed and supported by the community. As local sponsors, the District requests appropriations in FY 1990-91 to initiate the PED effort. Thank you for your consideration of our request.

STATEMENT OF SACRAMENTO VALLEY WESTSIDE CANAL ASSOCIATION

It is of paramount importance that the U.S. Bureau of Reclamation (Bureau) proceed to contract the remainder of the water yield from the Federal Central Valley Project, and thereby fulfill the intent of Congress when it authorized construction of the Tehama-Colusa Canal. Only then will the economic return on the investment in these facilities be fully realized.

Matters of environmental significance must be resolved so that the Bureau can move forward to complete its mission to contract the remaining water supply. In this regard, the Sacramento Valley Westside Association (Association) supports appropriations for FY 1990-91, as shown in the President's Budget for the Bureau's programs, including its Sacramento River Division, Trinity River Restoration, and Delta Support Studies. Also, the Association supports fully, the recommendation of the California Water Commission that Congress appropriate funds for FY 1990-91 for the Bureau to implement its program for a Temperature Control Device at Shasta Dam.

In closing, the Association respectfully requests the support of your Committee for the above-mentioned programs of the Bureau, which are critical to the utilization and management of the water resources of the Sacramento River System.

STATEMENT OF THE COACHELLA VALLEY WATER DISTRICT

Most of the time the Whitewater River disappears quietly into the sand soon after entering Coachella Valley near Palm Springs in the southeastern California desert. Occasionally, though, it becomes a roaring torrent, threatening the 200,000 people and more than $10 billion in developed property located along its 50-mile-long flood plain.

Coachella Valley Water District and its predecessor Coachella Valley Stormwater District have worked since 1915 to channelize the river to protect valley residents and their property. The channelization has been effective in controlling the flash floods--limiting most damage to the flood control facilities themselves, which, consist of earthen banked channels designed to carry the largest anticipated flows safely around nine valley cities to the Salton Sea.

Repair to the earthen banks is costly after each flood, but private property generally is kept safe. Warm rains on mountain snows, however, occasionally create more threatening situations. In 1979, for instance, the channel flowed full for nine days and nights and Bulldozer operators from throughout Southern California were kept busy working 12-hour shifts in the flow to keep the earthen banks in place.

The U.S. Army Corps of Engineers helped Coachella Valley Water District battle that storm.

The Corps has studied the Whitewater River and its tributaries on and off since 1937. It completed the most recent study in 1979 without identifying a feasible solution to the flood problems. The Corps Coachella Valley Authority was established in 1982 to continue to seek a solution, but remained unfunded and must die under the provisions of the Water Resources Development Act of 1986 which removes authorization from studies which remain unfunded for five years.

Now, erosion proofing of Whitewater stormwater protective works appears to be a viable solution to reducing long term damages to facilities, but further study is needed.

A new Congressional resolution authorizing study has been approved, but funding is required before the Corps of Engineers can institute further work. The Corps proposes a one year reconnaissance phase with 100 percent federal funding at an estimated cost of $340,000 followed by a two to three year feasibility phase with 50-50 cost sharing. The feasibility phase would focus on analysis of alternatives and development of a recommended plan.

To continue with this project vital to the safety of Coachella Valley lives and property, the California Water Commission joins Coachella Valley Water District and the Riverside County Flood Control and Water Conservation District in urging funding of this study.

SAN LUIS REY PROJECT—OPPOSITION

PREPARED STATEMENT

Senator **JOHNSTON**. We have also received a statement from Mr. Alex Deutsch in opposition to the San Luis Rey project which I will make part of the record at this point.

[The statement follows:]

STATEMENT OF ALEX DEUTSCH, SANTA MONICA, CA

We presented this Committee with a plan for construction of the San Luis Rey River Channel last year, supported by Dr. Howard Chang, our hydrologist and Dr. Don Bright, our biologist. This plan saved the taxpayers buying 250 acres of land, saving in excess of $10,000,000 and was superior both hydraulically and biologically. I never heard from the House Subcommittee, but I did from David Gwaltney of the Senate Subcommittee. As near as I can quote, Mr. Gwaltney could find nothing wrong with our plan, but could not approve it because of a consultation delay. Since last year the City Council of Oceanside has approved our plan and wants to use it, provided it will not cause a delay.

Now a new cause for delay has come about as a result of excessive sand mining. Without taking up your time with the problem caused by the sand mining, let me give you a quick and easy solution that can take care of everything. The San Luis Rey Channel is necessary for flood protection. The most dangerous and vulnerable spot along the river is a residential area called Los Arbolitos, about 4,000 residents, according to Mayor Bagley.

A simple effort of building a 3,000-ft. levee between Pilgrims Creek and the Fireside Channel will protect the residents. The U.S. Fish & Wildlife Service's objection is the necessity of granting to the U.S. Corps of Engineers the rights to go through three acres of willows, a distance of about 400 ft. of the 3,000 ft. needed right now, without waiting for the new trees to grow in their place. The U.S.F.W. requires that new trees be planted, reach the age of three years, before the present trees can be removed.

This construction can start in September and be finished in December. During this period the U.S. Army Corps of Engineers, U.S. Fish & Wildlife, City of Oceanside, and the property owners along the river should be able to work out all their problems.

I understand an appropriation of $5,500,000 has been provided in this year's budget. The cost of this 3,000 ft. levee cannot exceed $450,000 - and provides more safety to lives and property today than the rest of the channel combined.

We would like this Committee to assist in this matter by helping to obtain permission from U.S.F.W. for the immediate removal of these willows, without waiting for the new trees to reach three years of age. While this is being carried out, we can all work together as previously stated and save the taxpayers at least $10,000,000.

DEPARTMENT OF ENERGY RESEARCH AND DEVELOPMENT PROGRAMS

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

Senator **JOHNSTON**. Before concluding these hearings, I want to incorporate in the record several statements covering research and development activities of the Department of Energy which have been received by the subcommittee.

[The statements follow:]

STATEMENT OF THE COUNCIL ON ENGINEERING TASK FORCE OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

The Task Force of the Council on Engineering of the American Society of Mechanical Engineers (ASME) welcomes the opportunity to present our views through this written statement to the Senate Subcommittee on Energy and Water Development on the Department of Energy's FY 1991 Budget Request. This statement represents the considered judgement of the Task Force, a group of engineers with expertise in energy-related matters, rather than an official position of ASME. Our society will be 110 years old this year; we have 119,000 members, 19,100 of whom are currently-enrolled students.

The subject of energy, in its broadest sense, is central to the mechanical engineering field. ASME, as the principal technical society within this field, is vitally concerned with the programs and budget of the U.S. Department of Energy (DOE). While our interest in the overall DOE R&D budget is pervasive, in this presentation we shall confine our remarks to two issues that we believe must be addressed in FY 1991: the Secretary's proposed National Energy Strategy and university based research and education in engineering.

National Energy Strategy

For the past year, the Department has engaged in a broad effort to develop a National Energy Strategy. The ASME has been privileged to be a contributor to this effort. The Interim Report on this study was issued on April 2 of this year. We understand that the final National Energy Strategy is scheduled for delivery to the President in December of 1990. While its contents are likely to evoke public scrutiny and debate for several months the Interim Report is replete with statements of public attitudes, goals and options which are directly supportive of the concerns our Task Force wants to bring to your attention.

Our concerns in the engineering community relate to grossly inadequate funding for engineering research - both for the value of the research findings themselves and for the extremely important need to educate the next generation of technically-educated leaders of our university faculties and research laboratories. Additionally we believe that current budgets for renewable energy technologies are inadequate to develop these resources adequately. Before presenting our views on these matters, the Task Force found that the Interim Report includes the following statements that, in our view, appropriately delineate the issues of concern.

With regard to the area of Basic Research:

> **"Engineering research is sometimes thought to be too closely tied to specific industrial processes or products to be 'basic.' Yet various areas of engineering research are quite fundamental and generic in character, and consensus reports from the research community recommending enhanced Federal support of such areas have begun to appear."**

With regard to the area of Strategic Research:

> **"Strategic research is intended to provide understanding and fundamental knowledge to help resolve specific classes of technical problems. In contrast to basic research, the expectation is that strategic research will lead principally to development activities."**

With regard to the area of University Research and Instruction:

> **"Colleges and universities play two vital roles in helping the Nation meet its energy challenges: (1) conducting the research that creates the foundation for scientific and technical knowledge and (2) preparing the next generation of scientists, engineers, technicians, and other professionals. These two functions are inseparable, particularly at the graduate level.**

> **The energy challenges enunciated in the National Energy Strategy will depend on continued support of university research, including research awards for graduate, postdoctoral, and undergraduate students."**

Because the National Energy Strategy could well dictate the policy for federal investment in energy R&D for years to come, it is essential that its contents accurately portray the weaknesses as well as the strengths of our energy R&D investments to date, and to appropriately set near-term and long-term priorities for future R&D expenditures.

To some extent, the Department's FY 1991 budget request previews the administration's interpretation of these priorities; increased support for solar and renewable energy programs, decline in funding for fossil energy R&D and status quo (if not reduced) support for nuclear energy R&D.

Although the Task Force applauds the increased attention to energy efficiency technologies, and the proposed increases for the solar and renewable programs, we are concerned that the total budget for all renewable energy technologies is only 1.7 percent of the total DOE budget which is inadequate to develop these resources to their full potential. We are also concerned that the budget suggests a highly conservative, if not overly cautious, perception of the role of nuclear power in the nation's energy supply mix. In our view, the present and future potential contributions of nuclear power to a balanced national energy policy requires its inclusion in the Department's baseline scenario for a national energy strategy, not simply as an alternate energy resource. Future funding for nuclear energy R&D should reflect this importance.

Engineering Research and Education

There is an extremely important area that the Task Force believes has been grossly understated in the DOE FY 1991 budget request and which must be included as an essential element of our long range energy long range energy policy. For this reason, the balance of this presentation will focus on those aspects of the budget request that relate to federal support for energy related engineering research at our public and private universities.

We wish initially, to emphasize that engineering research is a vital part of our country's overall research effort. It is unfortunate that many individuals think that scientists, alone, do research and that engineers only apply it. Let us state unequivocally, that engineers do perform research - both basic and applied in nature - and that engineering research continues to be inadequately funded within the federal budget. This is true virtually across the board, but our remarks are confined to the U.S. Department of Energy and, in particular, to three specific programs which are of great importance to the university research community. These three are the Engineering Research Program, an activity under the Office of Basic Energy Sciences; the University Research Instrumentation (URI) program, and the University and Science Education (USE) program.

1. Basic Energy Sciences

The Office of Basic Energy Sciences (BES), under the Office of Energy Research, is the principal DOE supporter of fundamental, long-range energy research. It thus represents a major source of research funding at universities. In the introduction to the FY 1991 BES budget request, it is stated that "More than one-third of BES funding supports university-based research." In the case of Engineering Research, FY 1990 funding was distributed as follows: universities, 60%; national laboratories, 29%; private firms and others, 11%. Clearly this program has a significant component devoted to university research.

The FY 1991 budget request for BES is $649 million, of which $504 million is for direct support of research - an increase of 10 percent above the FY 1990 level. In contrast, the requested amount for

Engineering Research is $15.002 million, less than 3 percent of the BES budget, compared to the FY 1990 level of $15.354 million, which was 3.4 percent of the BES total. The funding level for Engineering Research has actually decreased - even before accounting for inflation. We are alarmed at these figures, and especially at the trend. We feel that the Engineering Research program in BES should be funded at a minimum of twice the budget request, i.e., at a level of $30 million per year.

The BES Engineering Research program has been very astute in its attention to contemporary research issues. During FY 1989 this program sponsored two workshops on the subjects of "Novel Applications of High Temperature Superconductors," and "Bioprocessing Research for Energy Applications." In these meetings, groups of world-class researchers met to assess the current issues in their field and to define appropriate research topics for the short and long term. As a result of workshops like these, the research community was stimulated to develop research proposals which address the topical areas identified. Unfortunately, however, at the current level of funding, this program is unable to accommodate the many technically sound research ideas that have been proposed.

In our opinion this is a truly unfortunate situation. These topical areas are obviously important when one considers the current technological problems associated with competitiveness -where high temperature superconducting materials offer promise; the enormous problems faced by this nation in the area of environmental restoration and waste management - where bioprocessing of waste is a promising technology; and in public safety - where the safe lifetimes of older structures such as freeways and aircraft bodies might be better defined and predicted with increased research attention.

Some of the research areas that are currently being addressed (intelligent machines, multiphase flow, plasma processing of materials, automated welding, and fracture characterization and prediction in structural materials) are clearly relevant and in tune with current concerns of our country. To move ahead in these areas in a timely fashion, the Engineering Research program must have a higher funding base, and must be solidly linked, through collaborative ventures, to the new product design and development efforts of the private sector. Again, there is precious little effort to support such colloborative endeavors.

We now turn our attention to the engineering education components of the Department's budget request. In particular, these budgets contribute to the education of graduate students who will become the technical leaders of the next generation. Limited funding of university projects has obvious connotations as to the long-term effect on graduate-level education.

2. University Research Instrumentation

The FY 1991 budget request for the University Research Instrumentation program is $5 million, the same as has been budgeted for the past four years. We believe that this is one of the soundest investments that the federal government can make and we enthusiastically support the continued funding of the URI program. One of the major handicaps faced by university researchers is the inability to acquire large capital equipment items. This program supports such acquisitions - allowing expensive, state-of-the-art instruments to be available for university principal investigators and their graduate students. Individual awards from this program average over $200,000, which is typically greater than the capital equipment budget for an entire school of engineering.

3. University and Science Education

The DOE University and Science Education program is directed specifically to strengthening the capabilities of universities and colleges to contribute effectively to the Department's long-range R&D mission. The stated objectives of this program involve increasing universities' R&D capabilities, utilizing DOE laboratory facilities to assist in enhancing our national competitive structure, increasing the numbers of trained young people in energy-related professional careers, and involving university faculty and students with DOE laboratory personnel and facilities in joint research and educational ventures.

The requested FY 1991 budget for this program is $29.76 million, an increase of 19 percent over the FY 1990 level. A significant portion of this increase is in the generic area of precollege support for minority and inner city/rural students. We certainly applaud these efforts wholeheartedly.

We note that the FY 1991 budget for this program, as proposed, discontinues the nuclear engineering research and education program which has been funded at levels ranging from $5 million to $6 million for each of the past three years. We also note that the increased support for university research and training reactors initiated last year at $1 million has also been excluded in the request. Because these investments are helping to sustain the vitality of graduate research in nuclear engineering and energy-related nuclear science, we strongly recommend that funding for these programs be retained. This DOE support has helped to maintain the vitality of graduate research in the nuclear engineering field and has likely enabled certain of these programs to survive.

Summary

The ASME Council on Engineering Task Force on Federal R&D Budgets endorses the Department of Energy's efforts to develop a National Energy Strategy, suggesting however, that this strategy must accurately reflect the importance of all our indigenous energy supply options, including fossil, solar, renewable and nuclear power, to our nation's long term goal of achieving a high level of energy self sufficiency. This goal can only be achieved through increased funding for vigorous development of our renewable and nuclear energy resources over the next decade.

Of particular concern to the Task Force is the fiscally understated support for engineering research and engineering education in the proposed FY 1991 budget request. Engineering research is critically important to adequately addressing the major energy supply, environmental and economic competitiveness problems facing our nation in the next decade and beyond. We must make the necessary investments in long-range engineering research and education now in order to effectively impact and sustain our world leadership in the rapidly changing international community. We suggest a doubling to $30 million of the Department's support for engineering research in the Basic Energy Science budget, sustained support for the university instrumentation program, reinstatement of funding for nuclear engineering education and for increased operating and maintenance support for university research and training reactors.

STATEMENT OF THE NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

The National Association of Regulatory Utility Commissioners (NARUC) respectfully requests that this statement be entered into the hearing record on the Administration's Fiscal Year 1991 Budget Request for the Department of Energy's Solar and Renewable Energy Programs.

As the Association representing the State Commissions responsible for the economic regulation of our nation's electric and gas utilities, we have a vital and direct interest in seeing that the most efficient and environmentally safe technologies are used in meeting the energy needs of utility ratepayers. With this objective in mind, the Executive Committee of the Association adopted a resolution at its Winter Meeting in February that requests the Congress to increase funds for the research and development and the commercialization of renewable energy technologies. A copy of this resolution is attached.

Our resolution also calls for increased funds for the Department's energy efficiency programs. We believe that both energy efficiency and renewable energy must be given a high priority at DOE if we are to achieve our environmental goals and have adequate electricity supplies as a Nation.

We make our recommendations to you with a full understanding of the enormous Federal budget deficit pressures that face the Congress. What we seek is a balanced approach to our energy supplies by allowing renewable energy to compete with other forms of electric supply. We note that in recent years the Federal government has made significant cuts in the R&D budget for renewable energy technologies. We believe the time to change this policy has arrived, as the Nation is about to embark on a more diligent program to clean up its air and as the need for cost-effective electricity technologies becomes increasingly apparent.

The Administration in its FY 1991 request for these programs has taken a positive first step in asking for an increase in funds for several solar and renewable energy programs over the current appropriations. But we urge your Subcommittee to go one step further, and set the appropriations for all these program above what the Administration has requested.

Finally, we urge you to carefully consider the recommendations of the **Alternative Budget Coalition** on renewable energy programs. As a member of the coalition, we fully endorse these recommendations.

We appreciate your consideration of our statement regarding the FY 1991 Budget for Solar and Renewable Energy programs, and we like to thank the Subcommittee for allowing the NARUC to present its views on this timely subject.

Resolution in Support of Federal Research on Energy Conservation and Renewable Energy Technologies

WHEREAS, *The Nation's growing dependence on imported oil supplies threatens our future well being and security; and*

WHEREAS, *The ability of the Nation to adjust to future energy supply constraints will depend on improvements in energy efficiency and the development of renewable energy technologies; and*

WHEREAS, *Renewable energy technologies and energy efficiency improvements are often highly cost effective and are essential to the achievement of environmental goals including a reduction in acid rain, the "Greenhouse effect" and damage to trees, crops and public health; and*

WHEREAS, *A vigorous research program on energy efficiency and renewable energy technologies must be given a high priority now if the Nation is to have the new technologies and products needed when energy supplies become increasingly constrained; and*

WHEREAS, *Federal funding for research and development on energy efficiency and renewable energy technologies has been cut by more than 70 percent since 1980; now, therefore, be it*

RESOLVED, *That the Executive Committee of the National Association of Regulatory Utility Commissioners (NARUC), assembled at its Winter Meeting in Washington, D.C., requests Congress and the Department of Energy to increase the funding for research and development and commercialization of energy conservation and renewable energy technologies, so that a balance will be achieved in our Nation's energy programs.*

Sponsored by the Committee on Energy Conservation
Adopted February 28, 1990

STATEMENT OF THE SIERRA CLUB

We understand that $15 million in federal funding for Hawaii geothermal development may be sought for FY 1991 in the Energy and Water appropriation bill. The purpose of this additional Department of Energy funding is to characterize and verify the geothermal energy resource under the Puna region, which includes a unique Hawaiian tropical rainforest on the slope of an active volcano.

We support the concept of utilizing renewable energy in the transition from fossil fuels, and have no disagreement with the need to reduce Hawaii's oil dependency. We believe a comprehensive least-cost energy process should be developed and implemented before any further appropriation towards new electrical supply is made.

We oppose any federal assistance for this proposed activity and urge you to reject any such initiative. We are opposed for the following reasons:

1) **It is improper for the U.S. taxpayer to assist in the degradation or destruction of a vulnerable intact tropical rainforest.** Abroad, the U.S. is demanding that other nations protect their rainforests and the U.S. itself follows stringent rainforest preservation guidelines when funding World Bank projects. This domestic appropriation would be setting a bad example, because it may ultimately lead to the destruction of the Wao Kele O Puna rainforest.

The rainforest system in Puna is unique in the world. It is a part of a complex vegetative mosaic on one of the planet's most volcanically active landscapes. This rainforest type is the Ohia/Hapuu (Metrosideros/Cibotium) lowland wet rainforest, which is identified by The Nature Conservancy of Hawaii's Heritage Program as a G3S3 natural community. This community type exists under conditions making it vulnerable to extinction. Roughly 90% of Hawaii's plants and animal species occur nowhere else in the world, and Hawaii has the dubious distinction of having more extinct and endangered species than anywhere else in the world.

The international community concerned with rainforest issues is rapidly becoming aware of the adverse impacts of developing geothermal energy in rainforests. It is hypocritical to fund activities which further the degradation and destruction of Hawaii's vulnerable rainforest resources.

2) **Geothermal development in Hawaii has a tainted record.** Some projects which have received DOE appropriations have been mismanaged. For example, the Hawaii Geothermal Project's 3 megawatt test generator facility was built with a $10 million appropriation. The location of the facility close to residences, combined with poor maintenance, unscheduled ventings of hydrogen sulfide and other poor management practices led Governor Waihee to shut it down in 1989.

Another example is the over $24 million of DOE funding spent on a highly controversial Research and Development project for a proposed Undersea Geothermal Transmission Cable which is designed to take 500 MW of electricity generated from the Puna area to Oahu (peak use 1100 MW), the population center of the state. Independent economic analysts have stated that this proposal could be a $3 to $4 billion burden to Hawaii taxpayers. This costly geothermal/cable project is being driven forward rapidly by Hawaii government officials without careful evaluation of its drastic economic and environmental impacts. In 1987 part of this $24 million cable research money was identified by the Office of Management and Budget as wasteful and put on its rescission list.

3) **Viable alternatives exist to the geothermal development in the rainforest and to the unnecessary financial exposure of the taxpayer/ratepayer.** A serious investigation of least-cost energy planning or "demand-side" management must be undertaken. On January 10, 1990 the Hawaii Public Utilities Commission opened a docket on "Integrated Resource Planning" to formally work out a strategy to undertake a new way of planning for delivery of energy services. Large scale geothermal development in Hawaii may not be the most cost-effective means for meeting Hawaii's future energy needs.

Any federal appropriation would seriously jeopardize this effort to level the playing field for all energy options. Implementation of large scale geothermal development could overwhelm the efforts for more environmentally benign and economical choices in Hawaii's energy future.

We believe it is improper and unnecessary to allow the additional $15 million appropriation be attached to the DOE budget. We urge the Senate to reject any such funding attempts.

STATEMENT OF THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS--UNITED STATES ACTIVITIES

The Energy Policy Committee of the Institute of Electrical and Electronics Engineers - United States Activities (IEEE-USA) is pleased to submit its views on the Department of Energy's FY 1991 budget request.

Energy is important to the nation's economic growth, national security, and international competitiveness. Of chief concern are the reliability and continuity of the nation's electricity supply system and the related global warming and environmental issues associated with electric power production. The IEEE-USA's Energy Policy Committee strongly supports DOE funded research which addresses these concerns. We particularly support research related to energy efficiency and conservation, electric energy and storage systems, photovoltaics and renewable energy, nuclear power and fusion, which we believe are essential to ensure adequate supplies of reliable, low-cost, and environmentally acceptable energy in the future.

CONSERVATION AND IMPROVED EFFICIENCY

The IEEE-USA Energy Policy Committee believes that the quickest and most economical way to positively influence energy-related issues is to research, develop and market electric energy conservation technologies and more efficient electric consuming equipment. This should occur across all end-use sectors; industrial, commercial, and residential.

Consequently, we strongly support the Department of Energy's plans to increase funding in building and community systems by 19 percent. Although a higher level of effort is clearly necessary, we believe this is a good first step to improve end-use energy consumption.

We also support increased funding for continuing research into building system instructions for new and existing buildings. It is essential to know how existing buildings function with respect to end-use consumption before developing new systems or implementing new standards and guidelines.

While we believe standards and guidelines for building design, construction, and operation are necessary and important, we urge you to consider the potential for indoor air quality problems that may arise as a result of energy driven changes in building design and operation. We also hope that increased funding for standards and guidelines will emphasize cost effectiveness and enforceability.

The proposed increase in funding for the Federal Energy Management program is encouraging and important. We believe that end-users in the private sector will begin to adopt energy management and conservation measures if the Federal government can demonstrate and document their cost-effectiveness in their new and existing buildings.

The state of technology transfer in building and community systems is morbid and is a major reason why building sector achievements in energy conservation have declined in recent years. Designers of end-use facilities and end-users themselves rarely understand the life cycle cost of energy consuming equipment and systems. Technology transfer and assessment in this sector is essential if we are to improve and reduce end-use energy consumption. Thus, we strongly support increased funding in this area. The technology transfer of the learned experiences in the building sector will complete the circle of leveraging tax monies to direct economic and societal benefits in energy use.

ELECTRIC ENERGY AND STORAGE SYSTEMS

The electric power system in the United States consists of over 10,000 interconnected generators serving over 100 million metered customers. Adding further to the complexity, no two utilities are the same. They come in all sizes, shapes, and forms, ranging from a utility serving a small town to one serving several states; utilities with peak demand in the summer and those with peak demand in the winter; those that generate, transmit, and distribute power to those that only distribute power. Government-owned generation and distribution utilities provide electric power to 14 million customers in 34 states.

The industry's continuing goal is to assure that electric systems can reliably deliver a quality product at a competitive price. Research and development is a vital part in meeting this goal, and requires continued support in manpower and money from utilities, manufacturers, universities and government. The Department of Energy programs in the Office of Energy Storage and Distribution are an integral part in the nation's success of meeting this goal.

In the DOE FY 1991 budget overview for Electric Energy Systems and Energy Storage Systems, DOE requests funding of $40.2 million ($27.3 million for Electric Energy Systems and $12.9 million for Energy Storage Systems). This represents an increase of 55 percent over the FY 1990 budget and is setting the two research activities on a track to a more realistic funding base commensurate with the importance of these activities in the national economy and the competitiveness of the nation.

In FY 1990, 72 percent ($12.1 million) of the DOE request for EES was for high temperature superconductivity (HTSC). This was a major restructuring of the EES program from previous years, and left only $5.0 million for all of the remaining research activities such as, electric and magnetic fields and reliability R&D. We find it very alarming that this trend toward a budget dominated by one activity is continued in the FY 1991 budget request from DOE. In the Systems and Materials Research category, $21.8 million is requested which appears to be almost exclusively for HTSC, including $15.0 million for the Pilot Center concept. This now represents 80 percent of the total EES request.

The increased request for Electric Fields Effects, from $2.2 million to $2.5 million, is a step in the right direction and shows that the Administration is moving towards the levels established by Congress in FY 1990. However, the Administration's request is still significantly inadequate at a time when there is increasing public concern about health effects from electric and magnetic fields from all forms of electrical energy delivery and utilization sources. Without intensive research to determine the extent and nature of electric and magnetic field interaction with biological systems, the most useful and convenient energy, electricity, may be unnecessarily constrained. If serious interactions are found, then the thrust of the whole DOE program may need to be reexamined. We strongly urge the Congress to begin to move the electric fields research towards adequate funding with an annual appropriation of $12.0 million for this very serious and critical national issue.

The FY 1991 request for Reliability Research is $1.6 million, a 35 percent cut from FY 1990 appropriation levels. It is difficult to understand the rationale for this reduction at a time when the electrical supply and demand system is facing great uncertainties including forecasted supply shortfalls by the mid 1990s; demand for transmission access by non-utility generators; the issues involved in the wheeling of power; increasingly loaded transmission system, and the impacts of environmental contraints and concerns. For example, as the current solar cycle approaches its peak in 1992, the electric utilities must prepare for possible disruptions caused by geomagnetic storms whose effects can seriously interrupt heavily loaded power systems and cause large scale blackouts such as what happened to the Hydro Quebec system in Canada on march 13, 1989. Accordingly, the Energy Policy Committee strongly recommends that the DOE-EES budget for Reliability Research should be increased in the FY 1991 budget and put on a path for increased funding over the next five years.

In the Systems and Material Research activity, the DOE request is $21.8 million, an increase of 82 percent over last year. However, we view with alarm that the only increase in funding in this request appears to be for the Pilot Centers ($15.0 million). Materials are the building blocks for all devices used in the electric power industry. Without access to the best, most cost effective materials and processes in the United States, the U.S. supply industry cannot remain competitive.

Therefore, we support a broad based materials program within EES to deal with the increasing challenges of life extension of aging utility equipment and to take advantage of the breakthroughs that are made to improve reliability through better materials. We are pleased that the request includes research on polymers, but urge Congress to aggressively provide funding in materials research on a broader more balanced base than that proposed by DOE.

RENEWABLE ENERGY: PHOTOVOLTAIC TECHNOLOGY DEVELOPMENT

The IEEE-USA Energy Policy Committee recommends support of basic research and deployment of photovoltaic (PV) technology along with other renewable technologies to assure continued advancement of this tremendous national resource. Research to date has convincingly shown that low cost photovoltaic systems can be developed to meet our expanding energy demands.

Photovoltaic systems offer several attractive features from the standpoint of financing, construction flexibility, and low cost operation and maintenance with little or no evironmental impact. PV technology is highly modular, allow large systems to be constructed by aggregating a number of identical systems. This modularity reduces technical and financial risks for developers. PV systems have few if any moving parts, thereby minimizing operating and maintenance costs. PV technology has demonstrated minimal environmental impacts and high reliability. Additionally, the output from PV plants is available during those hours of the day when most utilities are experiencing peak demands.
Recent photovoltaic reesearch has shown substantial progress made towards economic competitiveness: 35 cents per kilowatt-hour as compared to prices of over $15 per kilowatt-hour in the early 1970s. The cost is expected to continue to drop to less than one-half of today's levels through continued research and development of improved cell materials, new fabrication techniques, and expanded mass production facilities. PV systems will become a top competitor for new electrical generation systems in the next ten years with a continued strong development program.

The Federal government should move aggressively to support R&D for photovoltaic technologies. During the past few years as the world market demand for PV systems has expanded, the U.S industry market share has dropped precipitously. While the U.S. has continued to reduce funding for the research and development of photovoltaics, other countries, notably Japan and West Germany, have significantly expanded their efforts. U.S. companies have been forced to raise more capital for expansion of R&D and manufacturing which has led to the sale of several companies to foreign investors. This important emerging U.S. industry cannot be expected to support an expanding share of the R&D necessary to bring this technology to the marketplace.

The administration's request for funding for the photovoltaic program in FY 1991 reverses the downward spiral of federal support over the last several years. We strongly support the proposed increase for photovoltaics and recommend that this technology be given even higher priority within the federal R&D budget. The proposed new emphasis within the PV program for the expedient transfer of new techniques and materials to manufacturers is very exciting. Government support for the construction of larger PV facilities and systems would also be a positive program initiative. The electric utilities interest in the development of PV systems through the PVUSA program has evidenced the strong interest of the regulated utilities in this promising technology.

Other renewable technologies including wind energy, solar thermal, geothermal, biofuels, and ocean thermal systems are also supported by the IEEE-USA. A strong federal R&D program for all of the renewable technologies will provide the U.S. with needed energy supply options for the future.

NUCLEAR ENERGY RESEARCH AND DEVELOPMENT

The IEEE-USA Energy Policy Committee shares the Administration's view that nuclear energy is a vital component of the national energy supply that contributes to national energy stability, security and strength. Over the past twenty-five years, nuclear power has made major contributions toward meeting the growing energy needs of the U.S. economically, safely, and with minimal environmental effects. That contribution will become even more critical in the future as finite supplies of oil and natural gas are diminished and the world comes to grips with the environmental consequences of its energy choices.

In recent years, however, a variety of social, institutional, regulatory, and technical impediments have discouraged the utility industry from investment in new nuclear generating plant needed to meet the projected growth in electrical demand. From a utility perspective, there is a need to reduce costs, shorten construction times, facilitate the licensing process and reduce regulatory uncertainty. Government and industry must work together to address these needs and encourage the construction of safe but cost competitive nuclear power plants in the U.S.

Toward that end, we support the Administration's FY 1991 budget request for civilian reactor development and endorse DOE's efforts to revitalize the nuclear option by supporting the design, development, and certification of a new generation of standardized, simplified and passively safe advanced light water reactors. This new technology is an essential starting point to resolve the political, regulatory, and administrative issues that have slowed the expansion of nuclear power in the United States.

FUSION RESEARCH AND DEVELOPMENT

The IEEE-USA Energy Policy Committee supports a strong stable government-funded program in fusion research, aimed at the establishment of the technical base for the timely assessment of fusion as a long-range inexhaustible energy option with attractive environmental properties and widely available fuel supply.

Programs in both magnetic and inertial confinement fusion are underway and continue to make significant progress, but this rate of progress is projected to decline as the devices funded at the previous higher budget levels saturate.

Achievement of the goal of producing a timely fusion alternative demands a better supported, more stable long-term plan for the U.S. magnetic fusion program. The Magnetic Fusion Engineering Act of 1980 stated that a fusion reactor prototype should be operational by the year 2000; achievement of this goal required a steady increase in funding. In contrast, the U.S. Magnetic Fusion Energy (MFE) program is in decline; since 1980, the fusion budget has been reduced to about 50 percent of its 1980 level.

By comparison, the budget of the U.S. fusion program is significantly less than that of other nations. As a measure of relative funding, the U.S. TFTR program funding of $62 million is significantly less than European funding for the Joint European Tokamak (JET) at $120 million/year or the Japanese JT-60 at $140 million/year.

Despite the lower levels of funding support, the U.S. magnetic fusion program remains internationally competitive due largely to investments made 5-10 years ago. The TFTP at Princeton has produced plasmas of 30 keV, has met or exceeded it original minimum design goal for the product of density, temperature and confinement time, and is producing plasmas near "scientific breakeven." The DIII-D at General Atomics has achieved a world-record beta of 9.3 percent. Concomitantly, physics understanding is improving.

To remain competitive, however, new and upgraded facilities, including a device for studying the physical effects of the fusion reaction products, are needed. The U.S. program has proposed a new high-field Compact Ignition tokamak, targeted at the achievement of a self-sustaining fusion reaction. The community feels that such a device should be built, with a corresponding increase in the total budget for magnetic fusion.

In summary, to realize the promise of fusion, the United States must develop a consistent energy policy which includes the timely assessment of fusion energy as an alternative source of base-load electric power production with both a virtually inexhaustible supply of fuel and attractive environmental properties. The fusion program should include both a strong domestic program and an international component for otherwise prohibitively demanding projects to achieve feasibility and timeliness. The domestic program should include an optimized mix of operation at existing facilities and construction of relevant new facilities. The program plan should be adequately stable to permit the timely completion of construction projects, the efficient execution of research programs, the encouragement and exploitation of innovation, and the retention and development of technical staff.

STATEMENT OF THE COALITION OF EPSCoR STATES

INTRODUCTION.

Mr. Chairman, we appreciate the opportunity you have given us to submit this statement. The Coalition of EPSCoR States was formed approximately one year ago to work in support of the concepts embodied in the National Science Foundation's Experimental Program to Stimulate Competitive Research (EPSCoR).

The National Science Foundation established EPSCoR in 1979 for the purpose of developing the capacity of scientists and institutions in eligible states to compete more successfully for Federal research funding from NSF and other Federal agencies. The EPSCoR approach involves a coordinated state-wide planning effort, designed to identify programs which will facilitate the creation of pockets of research excellence within each state. Since 1979, 16 states and Puerto Rico* have been designated by NSF as eligible for participation.

The EPSCoR Coalition was formed to increase awareness of the EPSCoR program, to secure additional funding for it at NSF, and to encourage other agencies and departments of the Federal government to adopt complementary initiatives. By this statement we request this Subcommittee's support for initiating an EPSCoR-type initiative at the Department of Energy.

Characteristics of the EPSCoR States.

Research.

Presently, Federal research funding is concentrated in relatively few states and regions of the nation. As you can see from Chart I, the 16 EFSCoR states and Puerto Rico, while containing 13% of the United States population, receive only 5.6% of Federal research and development dollars. In contrast, the

*Alabama, Arkansas, Idaho, Kentucky, Louisiana, Maine, Mississippi, Montana, Nevada, North Dakota, Oklahoma, Puerto Rico, South Carolina, South Dakota, Vermont, West Virginia and Wyoming.

top five research states, with 27.9% of the population, receive 44.5% of Federal research and development dollars. It is not surprising, therefore, -- in fact it may be related, -- that the EPSCoR states tend to have a per capita income that is lower than the national average and substantially lower than the top five research states. This is shown in Chart II.

The EPSCoR experiment, while funded at only one-quarter of one percent of the NSF budget, was designed as a first step in addressing this disparity. The EPSCoR approach involves the establishment of a state-wide coordinating mechanism to:

-- Identify state and institutional barriers to successful competition for funding.

-- Develop a comprehensive improvement plan supported by state and institutional resources.

-- Undertake a merit review of all EPSCoR programs and;

-- Implement an improvement plan focusing on infrastructure improvement, research enhancements and human resource development.

The result has been a significant improvement in state support for research and development in the EPSCoR states. As you can see from Charts III and IV, Federal support as a percent of total spending for research and development at our research universities continues to lag significantly behind both the national average for Federal support and the percentage of support provided to the top five states. On the other hand, state support in the EPSCoR states is twice the national average and over seven times as great on a percentage basis as it is in the state that receives the greatest amount of Federal support.

Science Infrastructure and Human Resources.

The development of human resources in science, mathematics and engineering is supported by the Federal government in two ways. First, through the indirect cost recovery allowed on research grants, the Federal government supports state and institutional infrastructures. Those indirect costs, which deserve Federal support, range from 40 to 80 plus percent of the amount of the award. Obviously, therefore, the states with the least amount of research support also get the least amount of this Federal indirect infrastructure support.

Secondly, the development of human resources is funded directly by the Federal government through fellowship awards and a variety of program grants. Table I gives a breakdown of these awards from NSF by state for FY 1989. As unbelievable as it may seem, the 17 EPSCoR states receive only 1% of the fellowship awards and 7% of the program grants.

Initiating an EPSCoR Program at DoE.

Mr. Chairman, it is now time for a serious government-wide, systematic effort to broaden this Nation's scientific and research and human resources base, and we believe that the EPSCoR approach, as developed and refined by NSF for over 10 years, is the best way to proceed. We are not alone in this view; Dr. D. Allan Bromley, the President's Science Advisor, and Mr. Erich Bloch, the NSF Director, have expressed specific support for having the EPSCoR model adopted by other departments. We would also note that the Association of American Universities (AAU) and the National Association of State Universities and Land-Grant Colleges are both on record in this regard.

Accordingly, we hope that this Subcommittee will consider having the Department of Energy make available a small amount of its research funding, perhaps up to $4 million, to states for competitively-awarded EPSCoR-type grants. This amount of money could support a number of planning grants for states to assess their potential in areas of energy research and to develop comprehensive plans to realize this potential. For those EPSCoR states that have already made progress in this area, the funds could be used for a small number of larger implementation grants that would support research enhancement, infrastructure improvement and/or human resource development in energy research and the energy related sciences. In addition, we would ask this Committee to establish 100 EPSCoR graduate traineeships in the areas of science important to DOE's mission. Such a program would cost about $1.8 million.

Conclusion.

In 1979, NSF, faced with a requirement in its charter that it "avoid undue concentrations of research" initiated EPSCoR in an effort to broaden the distribution of its research funds. As developed over the last decade by NSF, this state-based model has proven effective; two out of the last three engineering research centers awarded by the Foundation went to institutions in EPSCoR states.

We in the Coalition believe that this proven model should be extended to other departments and agencies that fund research, including the Department of Energy. With the support of this Subcommittee, we are confident that the breadth of the research enterprise funded by the Department will be improved and that a significant enhancement of our human resource potential in the energy area will result.

CHART I

COMPARISON OF POPULATION AND FEDERAL R & D $$ AS PER CENT OF THE U.S. TOTAL

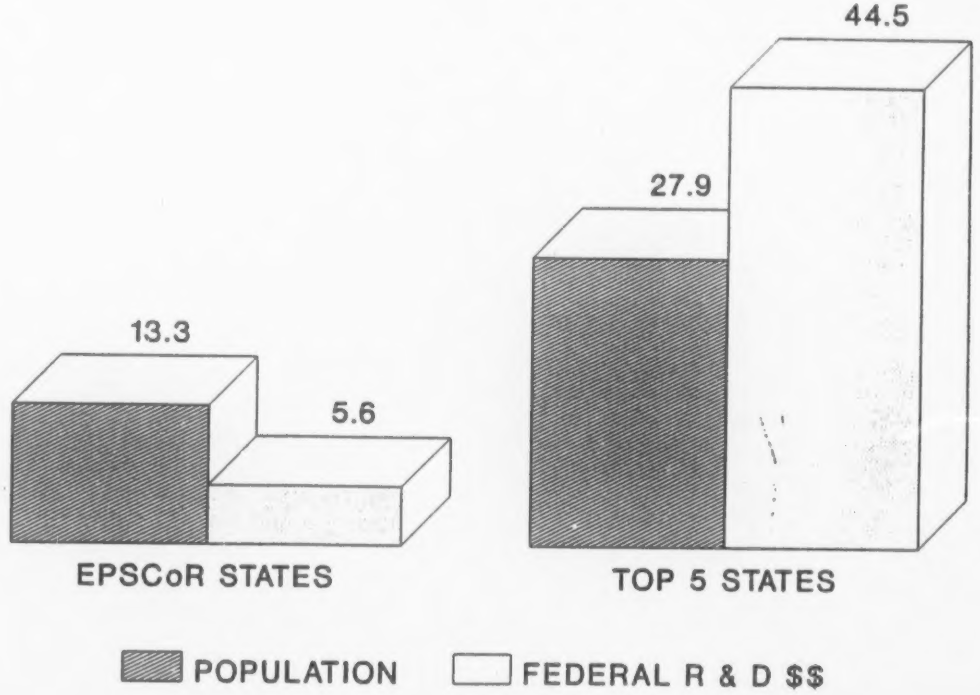


CHART II

PER CAPITA INCOME, 1988
PER CENT OF NATIONAL AVERAGE

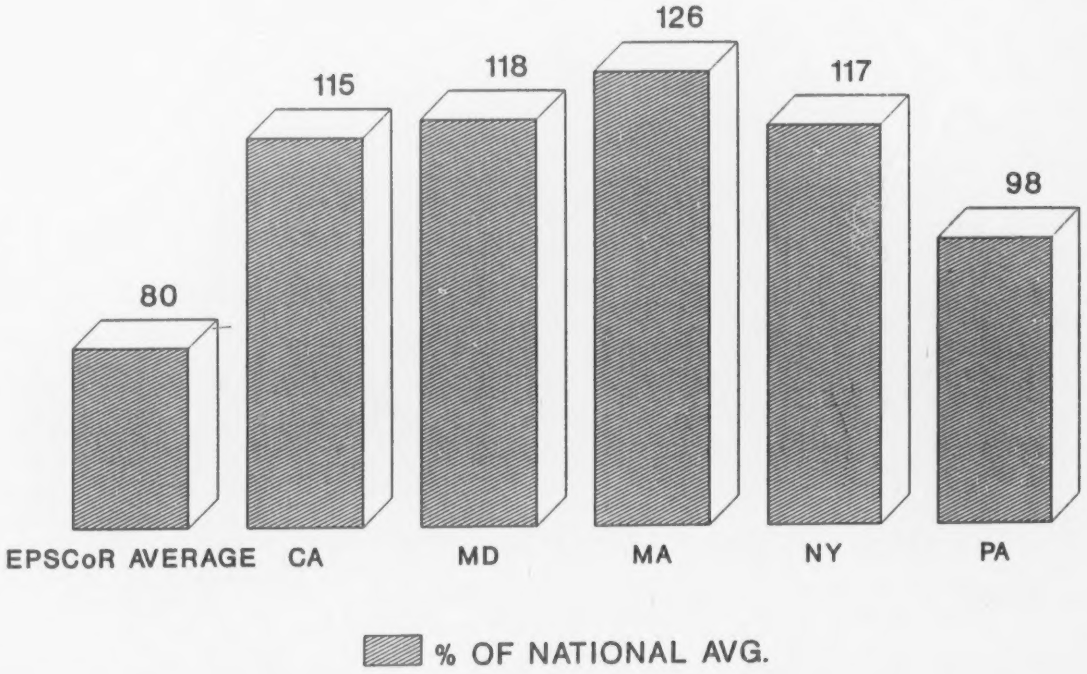


CHART III

PER CENT OF TOTAL 1988 R & D SPENDING PROVIDED BY FEDERAL GOVERNMENT

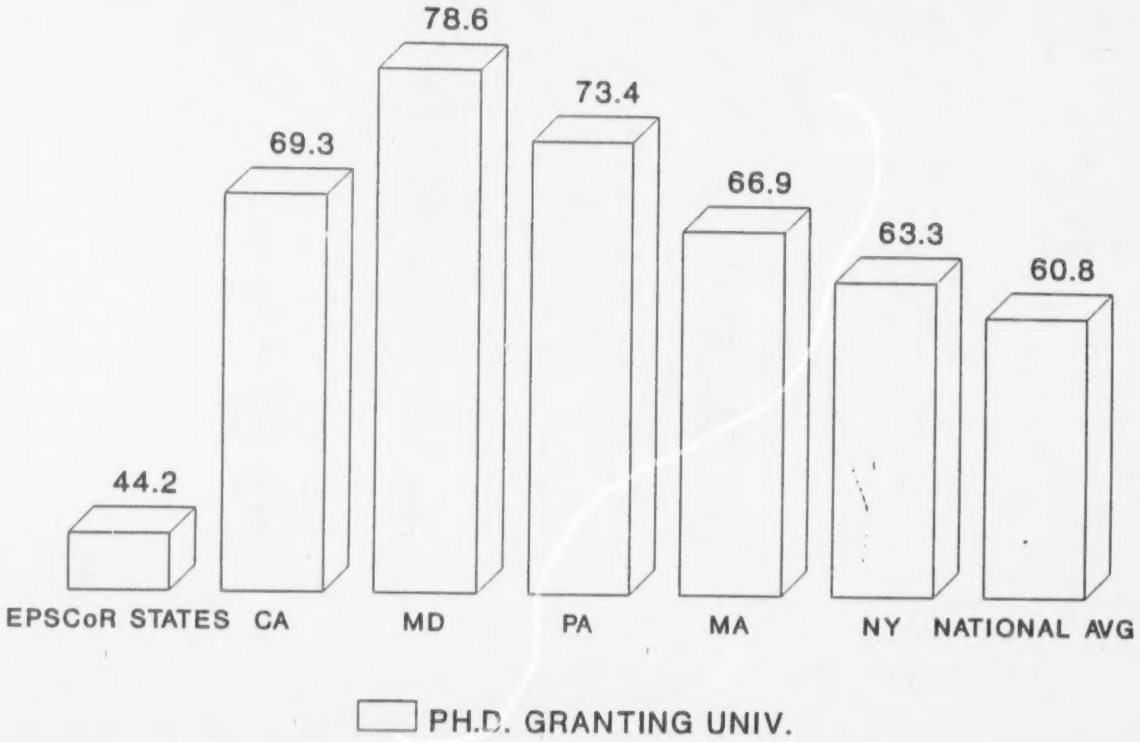
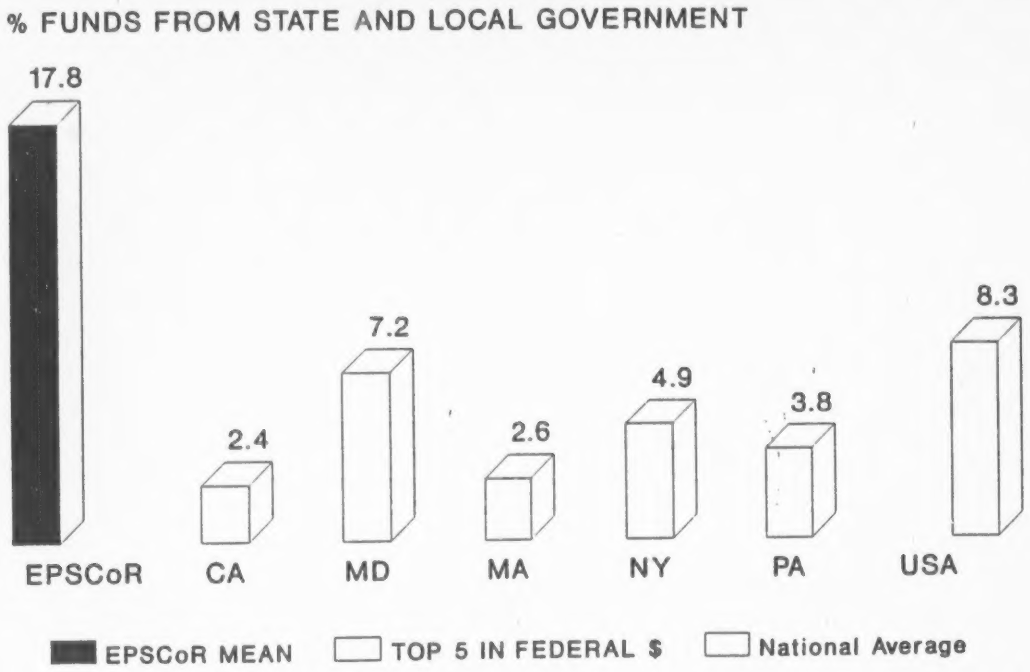


CHART IV

RESEARCH AND DEVELOPMENT SPENDING BY DOCTORATE-GRANTING UNIVERSITIES FY 88



Source: National Science Foundation

STATEMENT OF THE SOCIETY OF NUCLEAR MEDICINE AND AMERICAN COLLEGE OF NUCLEAR PHYSICIANS

The Society of Nuclear Medicine (Society) and the American College of Nuclear Physicians (College) are pleased to offer the following statement regarding the Department of Energy's Fiscal Year 1991 Medical Applications program. The Society of Nuclear Medicine is a scientific organization of 10,000 members including physicians, physicists, chemists, radiopharmacists, technologists and other professionals engaged in the clinical and research practice of nuclear medicine. The College is a professional organization representing more than 1,600 physicians and scientists actively engaged in the practice of Nuclear Medicine.

SUMMARY

The Administration's FY 1991 budget proposal seeks $39,500,000 for the Department of Energy (DOE) Medical Applications program. We do not believe this funding level is sufficient, given that over the past decade the DOE Medical Applications research budget has been flat or declining, after adjusting for inflation. The Society and College fully support this program and recommend a funding level of $41,409,500 or an increase of 10% from FY 1990.

The College and Society appreciate the severe budget constraints that the Congress, and your Subcommittee, must consider in addressing FY 1991 budget needs. However, previous research activities resulting from the DOE's Medical Applications Program, designed to enhance the applications of both radioactive and stable isotopes, has contributed significantly to the health care delivery system in the United States. In order to continue the progress and momentum achieved in the field of Nuclear Medicine, it is imperative that funding for research efforts be increased and not appropriated as a random designation.

The declining financial support of research exacerbates the problem of the lack of national resources (for example, accelerators, reactors) to produce radioisotopes. In the foreseeable future, radioisotopes may only be available from foreign sources. Of note, the sole domestic supply of a radioisotope critical to Nuclear Medicine (Molybdenum-99) has been interrupted indefinitely and a Canadian manufacturer is the only alternative source for the interim. To limit the current reliance on foreign sources for radioisotope production, there is the opportunity to expand the utilization of several production facilities located throughout the country. These types of constructions would act as a catalyst to advance basic research and the application of radioisotopes in nuclear medicine. This is also dependent upon Congressional support of the DOE, who would develop and supervise these facilities. At the DOE's present funding level, none of this can be accomplished.

WHAT IS NUCLEAR MEDICINE TODAY?

In a typical Nuclear Medicine procedure, the imaging study, a very small amount of a radioisotope is administered by injection. This radioisotope may be designed specifically to concentrate in a certain organ, or to be metabolized or removed from the body by a particular route. Certain radioactive drugs or radiopharmaceuticals are designed to concentrate only in abnormal tissue such as cancer cells or compromised heart muscle. The transit is recorded by instrumentation which images the distribution of the radioactive preparation in the body. Data derived from the examination may also be processed by computer, producing improved images and quantitative information about organ function. Radiopharmaceuticals may also be used in the treatment or palliation of disease.

Diagnostic in vitro examinations encompass certain tests (radioimmunoassay) in which a sample of body fluid is mixed with a radioactive reagent. These tests are used to determine the presence of cancer antigens, the precise concentration of various hormones, vitamins and drugs and to identify pollutants or other toxic materials in the environment. Radioimmunoassay techniques permit early discovery of tumors and metastases before they become clinically evident.

HOW EFFECTIVE ARE NUCLEAR MEDICINE PROCEDURES?

The Society and the College believe that Nuclear Medicine procedures enhance the diagnostic process by reducing total health care costs, decreasing the patient's length of stay as well as the patient's suffering by rapidly directing patient treatment. In addition, Nuclear Medicine procedures often provide more useful information about the patient's problems than other data available from alternative diagnostic modalities, many of which are much more costly. Nuclear Medicine studies provide a "snapshot" of the metabolic activity at the time of the image, as opposed to other imaging procedures such as radiography which reveal only anatomic information. With the advent of the Resource Based Relative Value Scale and other emerging cost containment methods, the cost effectiveness of most medical procedures will be carefully scrutinized. We are confident that Nuclear Medicine will fare well under this review.

Nuclear Medicine techniques are especially versatile for basic research in the chemical, biological and physical sciences. Since techniques are similar, data in these areas are easily expanded into clinical research, allowing rapid application of information from the research laboratory to hospital practice. DOE supported research is conducted in five primary areas: stable isotope research, radioisotope development, radiopharmaceuticals, instrumentation and clinical feasibility.

The following are a few of many such applications, demonstrating the importance of a continuing high level of research:

CARDIAC NUCLEAR IMAGING

One of the most dramatic examples of the rapid transfer of research developments to the hospital is the non-invasive study of the heart. According to American Heart Association statistics (1987), approximately 500,000 individuals succumb to heart attacks each year. The number of deaths from heart attack far exceeds the number of deaths from all cancers. Forty-five (45%) of individuals suffering their first heart attack are under age 65; 5% are under age 40. Early identification of persons at risk had previously been difficult. Nuclear diagnostic techniques are significantly more sensitive and less risky in identifying individuals with coronary artery disease than are other diagnostic methods such as electrocardiographic stress testing. Studies from a number of PET (Positron Emission Tomography) centers note a very high sensitivity and specificity for PET in the diagnosis and evaluation of the severity of coronary artery disease.

PET is also accurate in determining myocardial viability. In patients with previous infarction, the determination of myocardial viability is important prior to revascularization. No other methods have been as accurate as PET in defining myocardial viability. It is estimated that 10 - 15% of patients undergoing revascularization may not benefit from the procedure. The economic impact of a method such as PET for identifying these patients is apparent.

DOE-sponsored research is also directed at the development and refinement of SPECT, similar in technology to PET, but one which is less expensive and can be readily available in most Nuclear Medicine departments. The importance and cost-effectiveness in the use of SPECT imaging is demonstrated by the patient who presents with chest pain and signs of a myocardial infarction, requiring hospitalization in the coronary care unit (CCU). The use of Technetium - 99m labeled isonitrile (which can be chelated within the laboratory of the Nuclear Medicine Department and is available for emergency care) with SPECT imaging is a valuable tool in the triage of the cardiac patient and determining the short and long term care of the patient.

SPECT imaging is also used predominantly in screening for myocardial perfusion with radiothallium. This procedure constitutes 25-30% of the Nuclear Medicine laboratory activities. Treadmill exercise is generally used to produce stress. However, pharmacologic intervention (the use of the drugs Persantine or Adenosine) is being used to produce simulated cardiac stress. Adenosine is available for use in the clinical setting. When the parenteral Persantine becomes routinely available, more studies will be performed on patients who are currently considered poor candidates for the treadmill.

CANCER PATIENT EVALUATION

The major emphasis of Nuclear Medicine in oncology has shifted from the therapeutic application of radioisotopes to the use of enhanced imaging modalities which allow earlier detection and improved staging of cancers. In addition, there is growing use of Nuclear Medicine in monitoring the therapy of cancer and early discovery of recurrent or metastasized cancers. This information allows the clinician to continue or modify treatment. Among the more serious problems in cancer chemotherapy are the side effects produced by anti - cancer agents. Such effects can often be more efficiently monitored through the use of Nuclear Medicine procedures. For example, certain cancer drugs can adversely affect the heart muscle. Nuclear Medicine methods provide a guide to therapy whereby the level of drug toxicity and the possible drug induced heart failure can be avoided.

Despite this progress, present technology cannot successfully identify very small growths and often cannot determine their nature. Therefore, these techniques need to be improved by development of more specific radioactive drugs, by exploration of more sophisticated immunologic and biochemical methodology and by development of instruments with enhanced spatial resolution (such as that offered by PET and SPECT).

Research with radiolabled monoclonal antibodies is an example of a promising new approach that is being pursued. Labeled monoclonal antibodies utilize the specificity of an antibody to a tumor as a way of localizing the dose. With the advent of monoclonal antibody technology, particular attention has been given to the therapeutic isotopes. Several radioisotopes have been identified for potential use in this area of nuclear medicine. As radiolabeled monoclonal antibodies for melanoma, colorectal cancer, prostate cancer and lung cancer become clinically available, they will be important in use as a therapeutic modality for inflammatory arthritis and skeletal cancer metastases. Therefore, as the level of investigation of the monoclonal antibody technology and radioisotope use escalates, the production of and access to these radioisotopes will have to be addressed.

NEUROLOGIC APPLICATION

The National Advisory Neurologic and Communicative Disorders and Stroke Council have deemed the 1990's as the Decade of the Brain.

A significant contribution of the DOE - sponsored research is the investigation of the chemistry and metabolic patterns of the brain and central nervous system. PET is the first imaging technique that illustrates the metabolic activity in the various regions of the brain.

PET studies have clearly provided important information in the clinical management of patients with seizure disorders who are refractory to anticonvulsant therapy. Invasive techniques such as the placement of subdural strip electrodes and stereotactically-placed depth electrodes are typically used to evaluate these patients. These invasive techniques are costly and involve risk. The benefit of PET is that it allows the evaluation of the patient without the need for invasive monitoring. The findings on the PET scan demonstrate good correlation with the pathologic findings.

PET scanning is also useful in several aspects of the management of patients with primary brain tumors. PET scans are the only studies able to distinguish recurrent tumor from necrosis as a result of radiation therapy. PET scans are also useful in the initial staging of the tumor and guiding appropriate therapy.

DOE - sponsored investigators are also using PET scans in the study of dementias, stroke, epilepsy and neuropsychiatric disorders. With its advanced specificity, PET improves the clinician's ability to differentiate in his diagnosis between Alzheimer's, multiple infarct dementia, Huntington's and Parkinson's, to separate these diseases from the normal aging process and to remove confounding issues of therapies applied to patients that are heterogenous mixtures of different diseases. In addition, PET imaging is not only able to determine abnormal blood flow patterns in the brains of Alzheimer's patients, but is also capable of detecting this debilitating disease in its earlier mild and moderate stages.

In addition, for neuro-SPECT imaging, lipophilic gamma-emitting agents have been developed which diffuse readily into the brain after intravenous injection. These lipophilic complexes reflect regional differences in cerebral blood flow. Therefore, cerebrovascular disease can accurately be diagnosed, as can other diseases that demonstrate alterations in regional cerebral blood flow, such as head trauma, dementias and seizure disorders, with the use of SPECT.

Other than brain tumor extent and viability, SPECT, qualitatively, is equal to PET. Both techniques have clinically comparable resolution. The most notable difference is the more accurate quantification available with the tomographic images in PET. The improvement of SPECT instrumentation and quantification would significantly increase SPECT's utility. This is a significant research opportunity which at present is underfunded.

INSTRUMENTATION AND FACILITIES NEEDS

Progress in Nuclear Medicine research and the eventual application of research results in the clinical setting is dependent upon the refinement of existing instrumentation, the development of new technology and the renovation and construction of DOE laboratory facilities. The potential application of PET technology in the diagnosis and treatment of disease requires further refinements in its ability to resolve small structures more discreetly. In addition, since PET studies require costly, on - site cyclotrons, additional research and development is needed to design smaller less costly models so that more patients can benefit from this exciting technology. DOE research funds could also be wisely invested in advancing the development of SPECT, which could be more readily available to Nuclear Medicine departments than PET, as well as the design and development of new radiopharmaceuticals for use in clinical Nuclear Medicine.

PROGRAMMATIC RECOMMENDATIONS

The development of Nuclear Medicine is contingent upon the production and availability of stable and radioactive isotopes. Funding for the upgrading of several radioisotope reactors and the establishment of one or more dedicated sites for the production of unique radioisotopes must be encouraged if we are to maintain our leadership in radioisotope production and development.

The most important radioisotope used clinically continues to be Technetium-99m because of its favorable nuclear characteristics, ready availability and low cost. The chemistry of Technetium-99m received particular attention during the last decade when several specific adiopharmaceuticals tagged with Technetium-99m became available. These include imaging agents for the heart, brain and other organs.

Of immediate interest is the current limitation on the supply of this critical radioisotope. At the present time, Technetium-99m is produced in a radioisotope generator system. The parent in this system, Molybdenum-99, is derived from the fission of Uranium-235 (HEU) in a nuclear reactor located in Chalk River, Ontario, Canada. It is supplied to all U. S. manufacturers of Technetium-99m generators by Nordion International, Inc. The sole domestic supply of Molybdenum-99 produced from the fission of Uranium-235 (HEU) has been interrupted indefinitely due to operational difficulties at the Tuxedo, New York site. More than 90% of all nuclear medicine diagnostic procedures in the U. S. are performed with Technetium-99m radiopharmaceuticals and there exists no backup for our Canadian supplier of this vital commodity. It is interesting to note that, when it existed, the domestic supply of this radioisotope originated in a reactor owned by a foreign corporation.

Though Technetium-99m will remain the most dominant radioisotope during the 1990's, other radionuclides will be needed for specific application, particularly as nuclear medicine technologies are further developed and enhanced. Increased access to Iodine-123 will be important. The network for production and distribution of this radioisotope in Europe has been much more successful than in the U. S. The TRIUMF (Tri-University Meson Facility in Canada, administered by Nordion International, Inc.) is producing high-purity Iodine-123. Iodine-123 is the ideal radioisotope for several procedures and, if made available routinely at low cost, it would be adopted for some very important radiopharmaceuticals. Investigators are reluctant to further explore the clinical uses of Iodine-123 since its availability is limited and the cost is often prohibitive.

The production and distribution of stable isotopes are also needed. The aging Calutrons at Oak Ridge National Laboratory are one of the two major stable isotope producers in the world with the other located in the Soviet Union. Government subsidization of the Soviet Calutrons have created unfair commercialization of stable isotopes throughout the world market.

CONCLUSION

The Society and College urge Congress, as well as the Department of Energy, to continue to expand its support of Nuclear Medicine research activities. The Administration's budget request is inadequate to sustain projected future yields.

The Society and College believe that in order to reverse the flat funding trend in the DOE's Nuclear Medicine research program over the past 10 years, a substantial and steady infusion of funds is necessary. Our recommendation for a 10% increase for the program in FY 1991 would serve as a first step in meeting this challenge.

We want to assure the Committee that the Nuclear Medicine community will continue to work closely with the Department of Energy in the development of its research programs and the identification of opportunities in diagnostic imaging and therapy. The exchange of views and knowledge between DOE officials and the medical community helps to assure that the greatest possible benefit is derived from the funds committed.

STATEMENT OF THE AMERICAN PUBLIC POWER ASSOCIATION

The American Public Power Association (APPA), the national service organization representing more than 1,750 local, publicly owned electric utilities, submits this statement to the Appropriations Subcommittee on Energy and Water Development concerning appropriations for FY 1991.

POWER MARKETING ADMINISTRATIONS

The Administration's FY91 budget proposes radical changes in the repayment practices of the federal power marketing administrations (PMAs) and selling the Alaska Power Administration (APA) and the Georgia-Alabama portion of the Southeastern Power Administration (SEPA). Over the past several years, this subcommittee repeatedly rejected Administration efforts to alter PMA repayment policies. It also was this subcommittee's leadership that resulted in the explicit prohibition against spending funds to study the sale of the Bonneville, Southeastern, Southwestern and Western Area Power Administrations (Section 208 of P.L. 99-349). APPA appreciates the subcommittee's historic position on these proposals and encourages the subcommittee to reject these unwise and anti-consumer initiatives again.

Repayment Practices

The Administration proposes the repayment of all outstanding PMA debt on a straight-line amortization schedule at a current market interest rate. (APA debt is not included in this proposal because the budget assumes that APA will be sold.) The budget assumes nearly $1 billion in new income in fiscal year 1991 from this proposal; however, as confirmed by the Congressional Budget Office baseline projections, it is not possible to generate this assumed revenue in the available time frame.

Several adverse consequences for consumers, national energy policy, national economic competitiveness, the U.S. Treasury, and local economic conditions would result if the repayment acceleration proposal were adopted. Those consequences include:

o dramatic wholesale rate increases for federal power customers of 32 percent for the Bonneville Power Administration (BPA), 54 percent for SEPA, 78 percent for the Southwestern Power Administration (SWPA), and 52 percent for the Western Area Power Administration (WAPA). WAPA's 52 percent hike is the melded impact; project specific rate increases could be as high as 211 percent.

o volatile fluctuations in federal power rates as the interest charge on outstanding PMA debt is recalculated yearly to meet the current market interest rate.

o loss of the flexibility built into current repayment policies to allow for varying hydrologic conditions.

o local inflation, regional economic losses, and reduced industrial competitiveness resulting from federal hydropower rate increases.

o decreased U.S. Treasury receipts resulting from lower federal power sales. In some areas, federal power enjoys only a slight price advantage over other energy sources. The rate increases triggered by the accelerated repayment proposal could push federal power prices above what the market will bear, forcing current customers to find other energy suppliers.

Five of the last six Administration budgets contained proposals to change PMA repayment practices. Congress consistently rejected these proposals, and APPA urges rejection of the repayment proposal in the FY91 budget as well.

Sale of APA & SEPA Assets

APPA also urges Congress to reject the Administration's proposal to sell APA and the Georgia-Alabama System, including any attempt to lift the prohibition in Section 208 of P.L. 99-349 on spending funds to study sale of the SEPA assets. APA is not covered by Section 208, and the proposed sale is progressing through the administrative process. APPA opposes both sales proposals because selling PMA assets will increase electric rates, disrupt local and regional economies, eliminate a dependable source of revenue to the U.S. Treasury without reducing the burden of the federal deficit, and threaten a dependable power supply.

BPA's Conservation Program

The budget's attempt to force BPA to expense rather than to capitalize a substantially larger portion of the cost of its conservation program should be rejected. BPA already expenses about 50 percent of its conservation spending; the FY91 budget proposal, by cutting back on BPA's borrowing authority, would increase the expensed percentage to 75-80 percent. Adoption of the proposal would force BPA either to cut back its projected conservation program or to raise rates to cover the cost of expensing these measures.

Conservation is one of the most important means of meeting present and future energy requirements and is consistent with reducing harmful emissions into the environment. Also, the Pacific Northwest Electric Power Planning and Conservation Act of 1980 requires BPA to consider conservation as its highest priority in meeting future power demands. The proposed budgetary treatment of BPA conservation investments conflicts with current ratemaking trends and will discourage these energy saving investments. BPA's borrowing authority under the FY91 budget should be restored.

U.S. ARMY CORPS OF ENGINEERS

Procedural requirements to curb the exercise of excessive discretionary authority by the Corps of Engineers are needed to ensure that federal water projects constructed by the Corps are operated within the parameters established by Congress.

As this subcommittee knows, when new federal water projects are proposed, specific purposes are authorized and costs are assigned to each purpose. In many instances, project uses which were not anticipated and not authorized by Congress when the projects were first considered have emerged. These unauthorized uses -- such as recreation and water supply -- often reflect growing social and economic values. Federal power customers are willing to accommodate the objectives of these new, unauthorized project interests, provided this is achieved under equitable terms and through an open and deliberative process. Unfortunately, this equitable approach to conflict resolution is being frustrated and undermined by the cavalier actions of the Corps of Engineers.

As this subcommittee is aware, without congressional authorization or review, the Corps arbitrarily added new categories of project beneficiaries and altered the operations of the Georgia-Alabama System projects to benefit these unauthorized uses to the detriment of beneficiaries of congressionally authorized purposes. Similarly, the Corps' response to severe drought conditions in the Missouri Basin has triggered demands for a basin-wide review of the Corps' operating standards.

In response to earlier concerns about the Corps' use of excessive discretionary authority, Section 5 of the Water Resources Development Act of 1988 was enacted to provide project beneficiaries with certain due process rights before the Corps takes significant actions. Unfortunately, the Corps has not lived up to the letter or spirit of this requirement.

While S. 2183, the Water Resources Development Act of 1990, proposes a procedure the Corps is to follow before implementing operational changes at federal water facilities, APPA urges that this subcommittee in addition admonish the Corps to make certain it is operating federal projects within the parameters established by Congress and according to the requirements of Section 5 of the 1988

Water Resources Development Act. It is not APPA's intent or desire to micro-manage the activities of the Corps. However, it is essential that the Corps' activities and discretionary authority remain within the boundaries set by Congress.

The 1988 Water Resources Development Act also instructed the Corps to study the need to modernize and upgrade existing federal hydro facilities. The Corps is to report to Congress this year pursuant to Section 42 of the 1988 Act. However, the Corps has never requested an appropriation to do the study, and Congress has not independently provided the necessary funding. Given the intensive work on clean air legislation by this Congress and given the environmental benefits of hydropower, a study on maximizing existing federal hydropower facilities is in order. APPA urges this subcommittee to include funding for the study in the FY91 energy and water appropriations bill.

NUCLEAR REGULATORY COMMISSION

The Nuclear Regulatory Commission (NRC) proposes to recover 100 percent of its FY91 budget request of $475 million through user fees. NRC presently recovers 45 percent of its budget from user fees -- amounting to approximately $1.18 million per nuclear plant. To recover 100 percent of its budget, NRC would have to increase user fees to approximately $3.7 million per plant.

While APPA supports NRC's assessing user fees for specific services rendered, the proposed plan bears no relationship to services provided to operators of nuclear plants. Certain benefits of NRC regulation -- such as public health and safety, environmental quality, national security, and certain administrative functions -- accrue to the public at large and should be funded through appropriations. The Senate historically has opposed total recovery of the NRC budget through user fees. APPA urges Congress to reject this proposed user fee increase, which, if enacted, will fall directly and exclusively on electric ratepayers.

ELECTRIC AND MAGNETIC FIELDS

Funding for the Department of Energy's (DOE) research program on health effects of electric and magnetic fields (EMF) from electric transmission and distribution lines should be increased. The FY91 appropriations request for the program is only $2.5 million, down from the current $3 million budget. Yet, the DOE program is the major federal EMF research program underway. APPA believes a higher funding level than requested is needed to keep this important program on track.

Conflicting research results from EMF studies is strong evidence of the need for a well-funded research program. The medical and scientific communities, as well as the Office of Technology Assessment (OTA), the electric utility industry, and numerous policy makers have called for further research into whether EMF presents adverse health risks and, if so, what remedial measures are in order. The public concern about EMF also is increasing. Yet, despite the obvious need for additional research, DOE is asking for less money in FY91 than the current and historic appropriation levels.

The current DOE program focuses on human epidemiology, baboons, melatonin, stress, sleep patterns, fundamental membrane studies, and cell and tissue physiology. Additional funding means work can go forward on the effects of exposure levels at accumulated and intermittent doses, at different frequency ranges, and with temperature changes. In addition, research on the specific effects of EMF exposure on the growth of brain and skin tumors can be initiated.

APPA supports both federal and non-federal EMF research, but believes there should be a strong federal presence in the total research effort to assure the public of an unbiased scientific evaluation of EMF. APPA urges Congress to disregard DOE's appropriation request and fund the EMF research program at a sufficient level for the research that must be done.

RENEWABLE ENERGY

APPA applauds the Administration's interest in renewable energy research and development. The Administration's FY91 budget request for renewable energy is a significant increase compared to prior years' funding requests and sends a positive signal to industry and investors.

APPA also is pleased with the proposed reorganization of DOE's renewable energy programs and creation of the position of deputy assistant secretary for utility technologies. The reorganization plan should make the programs more responsive to end users and speed up transfer of R&D results. However, care must be taken to ensure that existing well-run programs, such as the Sandia National Labs Design Assistance Center and the Lawrence Berkley Labs window research program, are not harmed by the reorganization. The Sandia Center has provided valuable assistance to several APPA members with photovoltaic projects, and its unbiased advice and guidance are not available from the private sector.

APPA supports the Administration's new renewable energy initiatives, particularly the photovoltaic manufacturing, integrated resource planning, and hydroelectric impediments initiatives. Although many of the initiatives will provide important research, DOE also must address the "demonstration gap" that exists between R&D programs and deployment of cost-effective technologies suitable for utility use. A prime example is photovoltaics. The goal of the photovoltaic manufacturing initiative is production of competitive solar cells for utility use by the mid-1990s. DOE and the photovoltaic industry, however, cannot "dump" this technology on utilities in the mid-1990s and expect it to be embraced. Utility resource plans for that time period are being made now. Absent a major DOE push, unfamiliar and still costly technologies -- however promising -- will not be included.

Furthermore, utilities must gain operational experience through demonstration projects before accepting photovoltaics. However, at current prices of $8,000/kW, most utilities are not willing to fund demonstrations. DOE needs more cost-sharing programs with utilities to fund demonstration projects, such as the Austin (TX) Electric Department/3M/DOE 300 kW project and the utility industry/DOE Photovoltaics for Utility Scale Applications project. Until a method is found to lower the capital cost of utility renewable power plants, large scale utility use will continue to be delayed.

Congress must address the need for market-scale demonstrations essential to commercial acceptance. Congress recognized this need for clean coal technology (CCT) projects and established the CCT demonstration program at DOE. APPA requests that a similar program for renewables be established.

For FY 1990, APPA urges that funding levels be increased slightly from the Administration requests. APPA recommends $137.1 million for solar, $19.6 million for geothermal, $29.8 million for electric energy systems, and $13.5 million for energy storage. For the solar funding levels, APPA recommends $48 million for photovoltaics, $28 million for solar thermal, $28 million for biofuels, and $5 million for solar buildings.

STATEMENT OF THE AMERICAN GAS ASSOCIATION

The American Gas Association (A.G.A.) is a national trade association comprised of some 250 natural gas distribution and transmission companies serving over 174 million natural gas consumers throughout the United States. We appreciate this opportunity to present our views on natural gas-related research and development (R&D) conducted or sponsored by the Department of Energy (DOE).

The natural gas industry recommends an appropriation of $17.6 million for FY 1991 for renewable energy R&D falling under jurisdiction of this Subcommittee. This includes $9.6 million for geopressured methane R&D and $8 million for biofuels R&D.

The Importance of Gas-Related Research

The United States needs an adequately funded DOE research program, not only to meet future energy needs and reduce national security risks, but also to remain competitive in today's world economy. Gas-related research should be the most important component of DOE's research program.

Natural gas energy has an important role because its attributes favor its use in a myriad of applications. Natural gas is the cleanest of all fossil fuels. Gas can be used for pollution control by itself and to reduce sulfur and nitrogen oxide emissions of other fossil fuels. Gas can also be used as a vehicular fuel. No other single fossil fuel can be used in as many applications, with the inherent environmental benefits as natural gas.

The natural gas industry's million-mile transmission and distribution pipeline network provides an existing infrastructure to deliver energy and environmental improvements to every region of the country. Further, natural gas can be converted into usable energy more efficiently and inexpensively than other fossil fuels.

Research and development programs can continue to improve end-use appliance efficiency, as well as provide energy supply benefits. DOE's role in natural gas research serves two very important purposes in pursuit of these goals. First, DOE's support of gas supply-related research will ensure the recovery of a larger percentage of the total gas resource base, which, when hydrates are included, is much larger than the current estimates of the economically recoverable gas resource base. The amount of gas that can be recovered from the total gas resource base is directly contingent upon our ability to develop new tools and techniques to recover this gas at commercially viable prices.

In May 1988, the Department of Energy released a study entitled, An Assessment of the Natural Gas Resource Base of the United States. This study concluded that, in the lower 48-states, there are 1,059 trillion cubic feet (Tcf)of gas that can be tapped with existing technology. At the 1988 level of nationwide gas consumption, this amount is approximately equivalent to a 58-year supply. While the number is encouraging, low gas prices have forced new drilling ventures to address only the less risky and shallower deposits where payback on investments is more likely. What remain to be developed are concepts for recovering conventional and unconventional gas at competitive prices. Federal sponsored research is necessary to exert downward pressure on gas exploration and production costs, providing increased confidence that gas will continue to be available at competitive prices.

DOE funding is also needed to make significant improvements in the area of energy efficiency through the development of gas technology. Research of this sort will allow for the more efficient use of our domestic resource, and thereby reduce our nation's reliance on foreign oil. It will also facilitate economic growth by enabling U.S. industry to compete in the global marketplace more effectively, using our own resources and reducing pollution.

The gas industry has always recommended funding that is consistent with sound fiscal policy. However, our recommendation for all gas-related DOE funding for FY 1991 will show increases in fuel cells, natural gas vehicles, heat combustion systems and other industrial technology commercialization funding. Such an increase is sound public policy and in keeping with the need for least-cost clean air compliance measures.

Specific Funding Recommendations

RENEWABLE ENERGY: $17.6 Million

(1) Geopressured Methane ($9.6 Million)

Geopressured methane is found in either a free state or dissolved in water and trapped in sedimentary rock at higher-than-normal pressures. One of the largest geopressured areas underlies a portion of the Texas and Louisiana Gulf Coast. Estimates of the total resource in-place range up to 6,000 Tcf; however, estimates of the amounts of gas that might ultimately be recovered, given current recovery techniques, range between 10 and 150 Tcf. If technological breakthroughs can be achieved, geopressured methane could become another major source of domestic energy.

Research conducted by DOE in geopressured/geothermal zones is focused on producing both gas and electricity from low-grade heat in the reservoir brine. DOE should redirect its research efforts and concentrate on recovering the vast amount of dissolved methane found in geopressured zones. In addition to DOE's current geopressured program, DOE should develop new approaches that utilize traditional engineering principles to maximize gas production and minimize brine production.

(2) Biofuels ($8.0 Million)

Since the supply of organic and waste materials is virtually unlimited, supplemental methane supplies from biomass and waste conversion can add significantly to the total future gas supply picture. In addition, controlled production and use of methane from these sources can reduce natural release of methane from the decay of these waste materials. This decay is a substantial contributor to the overall rate of methane emissions to the atmosphere that contribute to the greenhouse effect. Finding sites for disposal of municipal solid waste is an increasing problem in communities across the nation. Therefore, developing energy from municipal solid waste and other biomass would promote the environmental benefit of productive use of currently "useless" materials. However, the quality of the gas produced and a suitable processing technique are important concerns that inhibit the widespread use of these potential gas resources.

The gas industry fully supports the gas-related biofuels R&D being carried out at the Solar Energy Research Institute (SERI) and recommends strong federal support for continuation of these important activities. Advances have been made in both the thermochemical and biochemical conversion processes, but more extensive studies and technology advancements are necessary to fulfill biomass' contribution as a usable source of energy.

Of particular interest to the gas industry is SERI's work in the biotechnology process of anaerobic digestion of municipal solid waste that includes genetic and other improvement of biological organisms and development of innovative reactor design concepts.

Another significant area of research at SERI includes methods to remove carbon dioxide from the air or from combustion plant stacks. $4.0 million is needed to perform these two gas-related initiatives in FY 1991. We also urge Congress to provide a strong, stable funding level for all biofuels research work at SERI. This research program has experienced drastic funding cuts in recent years.

Conclusion

The natural gas industry recognizes that the continuing budget deficit places severe constraints on federal energy research dollars. Our total recommendation this year for the two programs under this Subcommittee's jurisdiction of $17.6 million are very modest in cost. As the Administration, Congress and the public focus on clean air problems, there is a growing consensus that natural gas has a major role to play in solving this problem. To achieve this objective there must be increased federal funding for research and development to increase natural gas supplies and utilize this gas more efficiently. If Congress adopts our research recommendations, the nation will, over the long term, improve its energy supply security, energy efficiency, and environment.

DOE FY 1991 Gas-Related Budget
Major Gas-Related Research Programs
($ Millions)
(As of 3/07/90)

	FY 1990 DOE Request	FY 1990 Gas Industry Recomm	FY 1990 Congress Approp.	FY 1991 DOE Request	FY 1991 Gas Industry Recomm
ARTD (Gas Related)	3.0	6.0	4.7	3.9	6.0
Fuel Cells (Gas Related)	6.5	36.5	30.1	7.1	40.5
Surface Coal Gasif.	8.7	3.4	23.7	8.5	8.5
Underground Coal Gasif.	0.4	2.5	0.8	0.5	0.5
Heat Engines	0.0	8.0	0.0	0.0	2.9
Combus.--Cofiring/Reburn	N/A	N/A	2.5	0.0	8.5
Combus. Sys/Emiss. Cont.	0.0	2.0	0.0	0.0	0.5
Geosciences	3.0	*	4.0	4.5	*
Unconventional Nat'l Gas	4.1	15.0	14.6	13.7	23.3
Conservation	10.2	29.5	25.4	17.8	16.8
NGV/Diesel Vehicles	0.7	9.5	2.5	4.0	10.6
Biofuels	4.5	5.0	8.6	2.5	8.0
Geopressured Resources	2.9	8.4	6.0	2.9	9.6
TOTAL	$44.0	$125.8	$122.9	$65.4	$135.7

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*While the gas industry is supporting geosciences as a concept, it is not supporting a specific line-item funding level. The industry is supporting a funding level of $10 million for gas-related geoscience work.

STATEMENT OF THE NATIONAL ORGANIZATION OF TEST, RESEARCH, AND TRAINING REACTORS

I am A. Francis DiMeglio, Director of the Rhode Island Atomic Energy Commission and Chairman of the National Organization of Test, Research and Training Reactors (TRTR). I am testifying today on behalf of TRTR which is prominent in addressing the needs of university research reactors (URR's). TRTR requests your consideration and support for $6 million for FY91 to support the Research Reactor Programs administered through the Department of Energy, Office of Energy Research.

Appended to my testimony are some supportive documents with additional information. With your permission, I would like to request that these items be entered into the written record. In addition, I would like to point out that TRTR and the Nuclear Engineering Department Heads Organization (NEDHO) have cooperated in the preparation of their testimony.

TRTR is made up of the directors and managers of the 35 currently operating university research reactors in 24 states and focuses on the operation and utilization of these facilities. The geographical distribution along with the distribution in power level of these facilities is shown in the supportive documents. We would like to first express our appreciation for the vision and leadership of the Committee which has resulted in the support of $1 million in FY90 targeted for research reactors. The appropriation has been ably administered by the Office of University Programs in DOE and has had an extraordinarily positive and invigorating impact. The appropriation, along with some additional funding, has led to an expansion of the extremely effective DOE Reactor Sharing Program and will allow for the acquisition of some new equipment and upgrades at the research reactor facilities. In requesting that such funds again be appropriated, I believe that it is important that a clear picture of the needs of the university research reactor facilities be presented to justify the levels of the requests.

I would like to begin by calling your attention to the recent study by the National Research Council entitled *University Research Reactors in the United States--their Role and Value.* A copy of the executive summary of the study is appended to this testimony. This study examined the roles of URR's in the areas of research, education and service, especially in light of the decreasing numbers of reactors and concluded that "Policies that will limit closures and encourage modernization of a substantial subset of existing reactors, sufficient in numbers and types to meet national and academic needs for research, education and service are clearly in the national interest."

The number of licensed university reactors has declined to 35 at 33 sites. For the last several years the number of reactors has declined at the rate of two per year. This is cause for great concern, especially since these university research reactors form a fundamental and vital component in our national research infrastructure. While nuclear engineering departments use these reactors for both education and research, it is imperative to recognize that the university reactors serve a much broader user community than just nuclear engineering. University faculty, students, and researchers from university and industry carry out extensive research in many disciplines at these facilities. University research reactors are the focus of multidisciplinary research efforts resulting in contributions to the fields of physics, chemistry, biology, medicine, epidemiology, environmental sciences, material sciences, fluid mechanics, geology, archaeology, paleontology, forensic sciences, energy production and other areas as well.

Three principal techniques which are extremely powerful research tools and unique to reactors are neutron activation analysis, neutron scattering, and neutron radiography. By way of illustration, these techniques have contributed to such diverse studies as:

- Characterization of lunar samples,
- Identification of the aerosol components in arctic haze,
- Measurements of depolarization in single crystal superconductors, and
- Understanding of the trade routes in pre-Hispanic Mexico.

The National Research Council's report effectively summarizes the broad range of applications of university reactors Examples of significant recent accomplishments of university research reactors are appended to this testimony. Also appended are examples of URR's contributions to technological competitiveness. Further erosion in the number and status of university reactors would have a significant negative impact on our national capability to perform research and development in these high technology areas.

In education, on-campus reactors are increasingly used as laboratories by students from non-nuclear fields, as well as from nuclear engineering and applied science. University reactors contribute to the education of most of the graduates who are trained in the uses of radiological techniques and serve a broad range of off-campus constituencies including the medical community, industrial organizations, and governmental agencies at both the state and federal levels.

I particularly want to mention the DOE Reactor Sharing Program for which TRTR is proposing augmented support. This program has allowed faculty and students from other universities, community colleges, high schools, and junior high schools to utilize university reactors. This has led to research projects and lines of inquiry which might never have occurred had there not been a mechanism to access these facilities. The Reactor Sharing Program must rank as one of the most cost-effective and successful expenditures ever made with federal funds. This program must receive continued support and should be expanded to allow the university reactors the ability to serve a broader spectrum and larger number of users including host institution researchers.

Other countries have recognized the value of research reactors and responded vigorously. Major commitments to preserve the viability of neutron sources have been made overseas. In contrast, in the U.S., support for operations, upgrades, and equipment replacement has fallen behind, and those funds which have been available have come primarily from state and private sources. Funding for neutron sources in foreign countries over the past twenty years has been nearly a factor of 10 higher than in the U.S., and these countries are now well positioned to benefit from this investment in increasingly competitive fields of new materials and high technology. As an indication of the need that exists in the U.S. facilities, in FY90 DOE issued a call for proposals for new equipment to disburse the $1 million appropriated for that purpose. Thirty-three facilities were eligible to submit and proposals totaling approximately $3 million were received from 28 of the eligible institutions. However, the $3 million amount of these requests does not accurately reflect the need for new equipment, but rather indicates restraint on the part of the research reactor community in responding to DOE's stated interest in providing support to as many institutions as possible. In fact, the TRTR leadership feels that the National Research Council's estimate of $20 million per year much more closely reflects the true overall requirements. To assure that a significant reactor equipment program continues, TRTR recommends an increase to $3 million in FY91 and $5 million in FY92 and again in FY93.

While the need for equipment acquisitions at existing facilities is immediate, planning should also commence for major reactor upgrades during the next 5 to 10 years. Most of the university facilities in the U.S. have been in service since the 1950's and 60's, and suffer in comparison with newer or upgraded similar installations in Europe, Japan, the USSR, and even in emerging countries such as India and Indonesia. In the 1970's, $5 million was spent in the U. S. for neutron source development: about $250 million was spent in Europe. In the

1980's this situation continued with $300 million being spent for one reactor in Japan and $110 million for one reactor in Germany. If more decommissionings occur, if currently operating reactors are not supported at a national level, we will lose the research capability represented by our university reactors. We will then find ourselves at a major disadvantage compared with our international competitors. Furthermore, it would be prohibitively expensive to try to replace this capability by building new facilities. By far the most cost effective approach to retaining and enhancing our research reactor capability is to refurbish and modernize our existing facilities. At some point, of course, it will be necessary to contstruct new facilities.

To assure that a significant upgrade program can be initiated, a step-by-step approach is shown in the accompanying table consisting of $1 million for planning in FY91 followed by funds for upgrades of $3 million and $7 million for FY92 and FY93. This approach would be a significant commitment to addressing the pressing question of research reactor modernization.

As is the case with research accelerator projects in this country and with successful reactor programs abroad, support is also required for base in-house research programs. A similar approach is strongly recommended for U.S. university reactors. Such support would assure that the expertise and advanced equipment are available to permit the efficient utilization of the facilities. For example, to make full use of powerful techniques such as neutron scattering or neutron activation analysis, trained personnel and sophisticated instrumentation must be available to the researcher. It has been repeatedly demonstrated at comparable accelerator facilities or overseas reactors that appropriate funding for in-house support significantly enhances the quality of the research and the effectiveness of the installation. While $10 million annually would be appropriated for this purpose, a budget is proposed which ramps up from $1 million to an equilibrium level of $8 million during the FY91-93 period.

The university research reactor budgetary requirements are shown in bold type in the attached proposed budget table. (The NEDHO budgetary requirements are also shown for completeness.) The table shows a research reactor component program phased in over a 3-year period with $6 million in FY91, $15 million in FY92 and an equilibrium level of $23 million in FY93 and beyond. These figures are consistent with the results of the National Research Council study which recommended in 1988 an annual level of $20 million for university reactors, but in fact identified an overall need of approximately $35 million per year. To provide for the most efficient use of these funds, it is recommended that disbursement be based on competitive proposals subjected to the peer review process.

The university nuclear engineering programs and research reactors serve vital roles in assuring the nation's energy supply, providing graduates for key roles in areas vital to national security, and undertaking leading edge research critical to our competitiveness in high technology areas in the international marketplace. I believe the academic programs and the reactor facilities merit the consideration and support of the Committee and I very much appreciate the opportunity to present these remarks.

PROPOSED BUDGET

U. S. Department of Energy
Office of Energy Research
Office of University Programs

Nuclear Engineering and University Research Reactor Programs

FY91-93

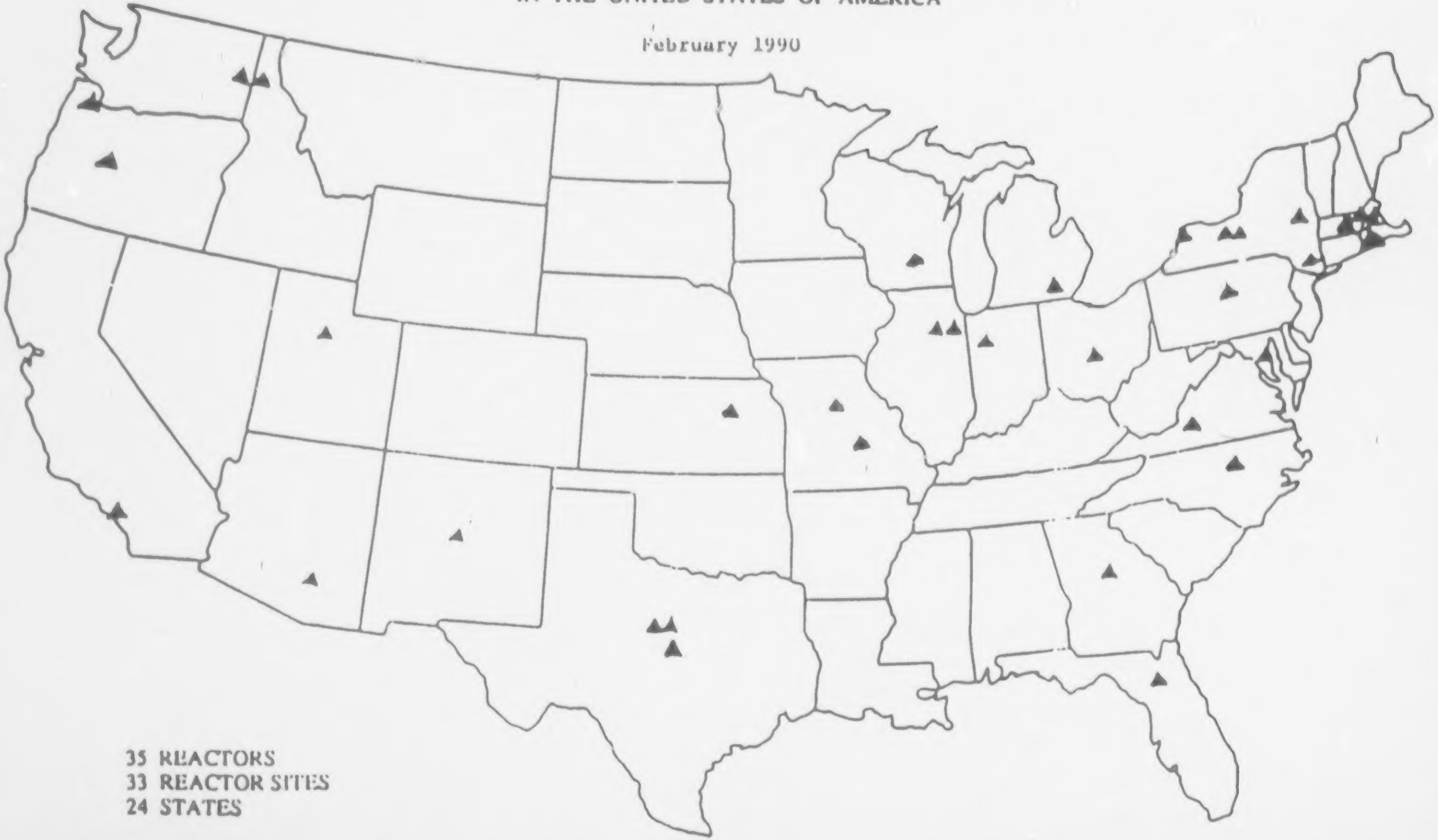
($M)

	FY90	FY91	FY92	FY93
Ongoing Research Projects	4.4	4.0	6.0	8.0
New Research Projects		4.0	4.0	4.0
DOE Nuclear Engineering and Health Physics, PhD Fellowships(10 new, fully-funded for four years)	1.6	1.0	1.0	1.0
Minority Institutions Program		1.0	1.0	1.0
DOE Traineeship Program		1.0	1.0	1.0
Subtotal (NEDHO)		*(11)*	*(13)*	*(15)*
Expanded Reactor Sharing Program		1.0	2.0	3.0
Reactor Equipment Modernization	1.0	3.0	5.0	5.0
Reactor Upgrade		1.0	3.0	7.0
Reactor based Research Programs and Operations		1.0	4.0	8.0
Subtotal (TRTR)		*(6)*	*(15)*	*(23)*
Total	7.0	17.0	27.0	38.0

OPERATING UNIVERSITY TEST, RESEARCH AND TRAINING REACTORS

IN THE UNITED STATES OF AMERICA

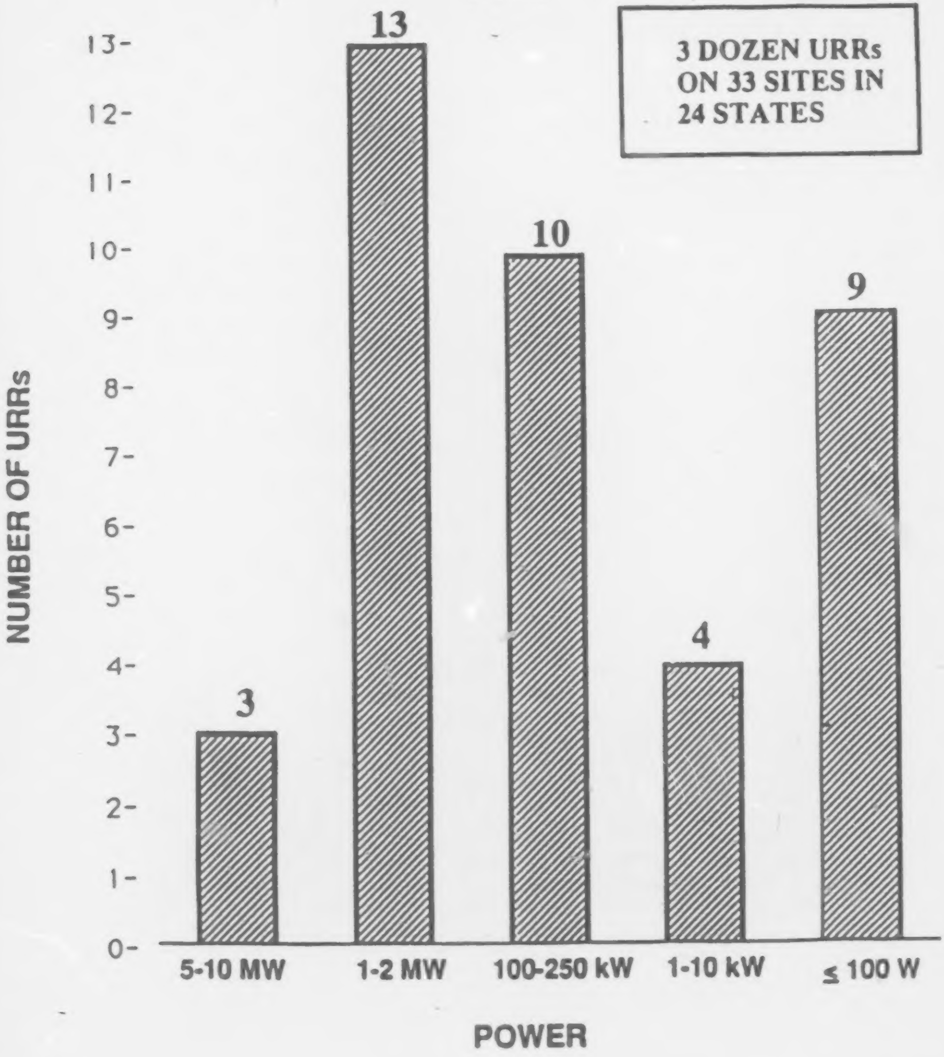
February 1990



35 REACTORS
33 REACTOR SITES
24 STATES

UNIVERSITY RESEARCH REACTORS IN THE USA

(1989)



University Research Reactors in the United States - their Role and Value

Prepared by the
Committee on University Reseach Reactors
Energy Engineering Board
Commission on Engineering and Technical Systems
National Research Council

EXECUTIVE SUMMARY

THE NATURE OF THE PROBLEM

Over the past two decades the number of nuclear reactors used for research and education on university campuses has declined from about 76 to 40. Moreover, while some universities continue to maintain and even upgrade their reactors, further reductions are expected. The reasons for this include competition for limited university funds, poor external funding prospects, lack of growth in the nuclear power industry, and, in some cases, prolonged hearings and litigation associated with licensing procedures. In effect a vicious circle has developed in which reduced support leads to lower faculty and student interest, which leads to under-utilization, which leads to lower motivation for continued support and so on.

It was a premise of this study that given the training, research, manpower development and other needs in the nuclear field, this trend should not be permitted to go too far. Policies that will limit closures and encourage modernization of a sustainable subset of existing reactors, sufficient in numbers and types to meet national and academic needs for research, education and service are clearly in the national interest.

To formulate such policies, the Committee addressed the following questions:

- What national interests (scientific, technical, medical and educational) are served by on-campus research reactors?
- What academic values derive from university reactors?
- Is federal financial support necessary or desirable to arrest current trends and assure the retention of an adequate population of university research reactors?
- What levels and types of federal support, if any, should be provided?
- What guidance can be offered to universities and to the federal government pursuant to reasonable and prudent licensing of university research reactors?

PRINCIPAL FINDINGS

Pursuant to the National Interest

The national interests served by university research reactors include:

- development of high-technology applications in fields such as materials sciences, fluid dynamics, and biomedical sciences, using reactors as sources of neutrons;
- research contributing to the future of nuclear power reactors, including the scientific basis for new concepts, for safeguards, and safety; and,
- education of personnel needed to operate, maintain and improve reactors and other facilities associated with national defense and nuclear power activities.

The Committee finds that the existing population of university research reactors, as a whole, does not adequately fulfill these national interests, particularly with respect to the use of neutrons in the development of high technology. Moreover, in several important research areas the U.S. is not currently on a par with Europe and Japan. Deficiencies at U.S. university research reactors, stemming in part from inadequate financial support, include inadequate peripheral research equipment such as spectrometers, cold sources, and radiographic equipment. The effects of these deficiencies would be reduced by better access for university-based researchers to major national facilities which are better equipped. But opportunities for such access are now inadequate.

The Committee is concerned that a failure to correct these deficiencies, coupled with a continuation of the trend in reactor closures, will serve to widen an existing gap of U.S. neutron science capabilities.

The Committee is also concerned that future national needs for nuclear engineers and scientists trained in the neutron sciences may not be met if the current negative trends continue.

However, selective reduction in the number of university research reactors will not of itself damage the national interest, provided that a healthy core of on-campus and off-campus research and educational reactor facilities is retained.

Pursuant to Academic Values

The Committee finds that on-campus research reactors contribute to academic values through research and education at the university, and through service to off-campus user constituencies:

Research: University research rectors are the focus of multi-disciplinary research with contributions to physics, chemistry, biology, medicine, epidemiology, environmental sciences, material sciences, fluid mechanics, geology, archaeology, paleontology, forensic sciences, and other fields in addition to nuclear engineering research and reactor physics. The three principal reactor research techniques are neutron activation analysis, neutron scattering, and neutron radiography. The latter two are largely confined to reactors of one megawatt and higher power. Research reactors in the United States constitute unique and essential research tools in several aspects: structural determinations of materials including superconductors and biological, ultrasensitive analysis for traces of elements, radiological display of physical phenomena, and introduction of radioisotopes for medical diagnostics and research (See Chapter 2).

Education: On-campus reactors have been a traditional focus of educational programs for nuclear engineers. In addition, on-campus reactors are increasingly used as laboratories by students in the non-nuclear fields listed above. Educational uses are made of even the smallest fractional watt on-campus reactors. Beneficiaries include graduate and undergraduate students, as well as nuclear power plant operators, secondary schools and the general public through outreach programs (See Chapter 3).

Service: University reactors, particularly those of one megawatt and larger, serve a range of off-campus constituencies: the medical community, industrial organizations, and government agencies. These clients use irradiated materials, materials analysis, trace element detection, and radiographic analysis of objects and processes. By providing such services, managers of university research reactors establish beneficial links to off-campus users, expose faculty and students to commercial applications of the nuclear sciences, and earn revenues to help support reactor programs (See Chapter 4).

The Committee finds that U.S. university research reactor facilities must be upgraded and provided with modern equipment if they are to meet their intended objectives and become world-class research and educational facilities. Needs include modern instrumentation, low temperature irradiation facilities, cold neutron capabilities, modern spectrometers, radiographic equipment, increase power and neutron flux, and other enhancements.

University administrators, in weighing the future of on-campus reactor programs take into account the following factors:

- academic benefits in terms of research, education, and service;
- costs of achieving these benefits including the costs of safety and safeguards, as well as dealing with legal actions and protests;
- the availability of resources from federal and other sources to defray these costs; and
- competition from other on-campus research facilities for limited financial and other resources.

The academic benefits associated with university research reactor programs are summarized above and are discussed in detail in Chapters 2, 3, and 4.

On-site reactors, clearly, enhance the educational and research missions of a university. Properly equipped and managed on-campus reactors offer unique advantages in terms of hands-on education and research experience in running small scale experiments which would not be practical at larger off-campus reactors. However, it cannot be concluded that every on-campus research reactor is essential to these missions. This depends on the particulars of the educational program, and on the nature of access to off-campus research reactors.

Pursuant to Procedures for Safety and Safeguards

The Committee observes that the safety and safeguard records of on-campus reactors have been excellent. Nevertheless, a growing concern for reactor safety, as well as the potential for sabotage and for theft of nuclear materials, has led the Nuclear Regulatory Commission to upgrade the requirements for the protection of all reactors from the largest 3500 MW (thermal) electric power facilities, down to the smallest university reactor. The Committee does not take issue with the Commission with respect to these concerns. However, the Committee finds that some of the procedures of the Nuclear Regulatory Commission associated with improving safety and safeguards at university reactors can result in costs out of proportion to the improvements achieved. A particular concern is that relicensing procedures associated with reactor safety and safeguard upgrades can in some cases unnecessarily expose the universities to costly hearings and litigation. The Committee is also concerned that existing rules and procedures for the licensing of university research reactors have at times lent themselves to abuse by intervenor groups who use the opportunity to assert their larger political opposition to nuclear power and defense activities (See Chapter 6).

PRINCIPAL RECOMMENDATIONS

The federal government, in partnership with the universities and the national laboratories, should develop and implement a national research reactor strategy, the elements of which should include:

- development of university and national laboratory centers of excellence in specific areas of the neutron sciences and reactor technology for world-class research as well as for education;
- anticipation that as some university reactors are upgraded and a user's network is created (see below), others are likely to close;
- mechanisms to assure that such closures do not go so far as to damage the national interest related to research and educational capabilities in the nuclear sciences and engineering; and
- development and support of a reactor network to provide enhanced utilization and productivity of U.S. research reactors involving researchers from universities with and without on-campus reactors, and from the national laboratories.

To implement the above strategy:

- a single federal agency should be designated to administer programs in support of the national research reactor programs; and
- the federal government should create a standing advisory structure to advise on a continuing basis on all aspects of this program.

In pursuit of this strategy the Federal government should:

- adopt the goals of meeting U.S. research reactor needs, and regaining a position competitive with Europe and Japan in the neutron-based sciences;
- study, in detail, the approaches of other advanced countries to operating research reactor networks such as that of linking the major facility at Grenoble with smaller reactor research centers in Europe (see Chapter 5);
- establish and support such a network, adapted to U.S. needs;
- make up to $20 million available annually (as a preliminary estimate to be modified as improved data becomes available) to universities through the designated federal agency, specifically for operational support and facility upgrades of university research and educational reactors (see Chapter 7); and,
- create a peer review mechanism to assist the designated agency in making grants to universities.

The Nuclear Regulatory Commission should examine its current approach to the licensing and regulation of university research reactors in terms of the following issues:

- the small nuclear materials inventories and low power densities of university research reactors, which result in risk factors related to safety and safeguards considerably lower than commercial power reactors (see Chapter 6); and,
- avoiding unnecessary exposure of small university reactor operators to costly hearing and litigation procedures as a condition for licensing upgrades and improvements.

Finally, the Nuclear Regulatory Commission should consider grants of technical and financial assistance to help university reactor operators to comply with upgraded safety and safeguard requirements, including and continuing beyond the current program of assisting with the conversion to low-enriched fuels.

RECENT IMPORTANT CONTRIBUTIONS OF UNIVERSITY RESEARCH REACTORS

February 1990

University research reactors are used in research, education, and service.

In research, University research reactors are the focus of multi-disciplinary research with contributions to physics, chemistry, biology, medicine, epidemiology, environmental sciences, material sciences, fluid mechanics, geology, archaeology, paleontology, forensic sciences, and other fields in addition to nuclear engineering research and reactor physics. The three principal reactor research techniques are neutron activation analysis, neutron scattering, and neutron radiography. The latter two are largely confined to reactors of one megawatt and higher power. Research reactors in the United States constitute unique and essential research tools in several areas: microstructural determinations of materials including superconductors and biological, ultrasensitive analysis for traces of elements, radio-logical display of physical phenomena, and introduction of radioisotopes for medical diagnostics, therapy, and research.

In education, on-campus reactors have been a traditional focus of educational programs for nuclear engineers. In addition, on-campus reactors are increasingly used as laboratories by students in the non-nuclear fields listed above. Educational uses are made of even the smallest, fractional watt, on-campus reactors. Beneficiaries include graduate and undergraduate students, as well as nuclear power plant operators, secondary schools and the general public through outreach programs.

In service, University reactors, particularly those of one megawatt and larger, serve a range of off-campus constituencies: the medical community, industrial organizations, and government agencies. These clients are irradiated materials, materials analysis, trace element detection, and radiographic analysis of objects and processes. By providing such services, managers of university research reactors establish beneficial links to off-campus users, expose faculty and students to commercial applications of the nuclear sciences, and earn revenues to help support reactor programs.

Recent important contributions have been made in all of these areas. A few examples follow.

The use of neutron activation analysis has led to:

- The development of a new general theory of mass extinction in the Phanerozoic era, as well as an understanding of planetary development from a study of lunar and other cosmological samples.
- A better understanding and predictive ability for earthquakes and eruptions in the western United States.
- The discovery that arctic haze is pollution aerosol from mid-latitudes, Eurasia, and not from North America or the Far East.
- A better understanding of trade routes and exchange of goods in pre-Hispanic Mexico and among prehistoric peoples.
- The determination of correlations between dietary trace element nutrients and human disease such as breast, prostate, and cervical cancer and adult onset diabetes.

In the areas of nuclear and condensed matter physics:

- The design, construction and use of a unique small-angle polarized neutron spectrometer, the only one of its kind in the United States.
- The development of two-crystal method of measuring total slow neutron cross sections.
- First measurement of depolarization by a flux lattice in an epitaxially grown single crystal of high critical temperature, YBaCuO superconductor.
- First characterization of HgI2, a potentially important electronic material grown in the microgravity experiments of shuttle mission Space Lab III.
- The development of a new technique for characterization of defects in semiconductor, deep level transient spectroscopy (DLTS).
- The development for the automobile industry of a powerful but lightweight permanent magnet which can be made from inexpensive materials and will help the United States industry remain competitive.

In the area of medicine:

- Development and use of epithermal neutron beams for treatment by neutron capture therapy of deep seated brain cancers.
- Boron neutron capture therapy studies using in vitro cell media and boronated mono and polyclonal antibodies.
- Research, development, and production of radiopharmaceuticals for diagnosis and innovative treatment of cancers.
- Production of physiological short-lived isotopes for researchers for in vitro study of hypertension, cystic fibriosis, cancers, and other diseases.

In the area of engineering:

- Determination of optimum water chemistry parameters to minimize radiation exposure to nuclear power plant workers.
- In-Situ testing of radiation damage effects to electronic components of reactor power conditioning circuits.
- The determination of the useful service lifetime of nuclear power plant structural materials.
- Development of non-linear digital feedback control of power reactors with experiments using a university research reactor.

Prepared by

A. Francis DiMeglio, Chairman of TRTR
Otto K. Harling, Chairman, TRTR Sub-
committee on URR Funding

UNIVERSITY RESEARCH REACTORS AND TECHNOLOGICAL COMPETITIVENESS

1990

These examples are samplings taken from the activities at a few University Research Reactors during the last few years. No attempt was made to provide a comprehensive overview of similar contributions from all of the 35 operating URRs. Such a listing would be much longer. It is hoped that the examples given here will provide a good indication of the multi-faceted contributions of URRs to the country's technological competitiveness.

Further information can be obtained from the undersigned, who obtained and organized the material in this report.

Otto K. Harling
Massachusetts Institute of Technology
Member of TRTR

A. Francis DiMeglio
Rhode Island Atomic Energy Commission
Chairman of TRTR

Medicine

- Demonstration of radiation synovectomies, using URR produced radioisotopes, as a safer and cheaper alternative to surgery for rheumatoid arthritis.
- Development of the special neutron beams and other technology needed for neutron capture therapy of highly malignant cancers. This neutron capture therapy approach to treating deep-seated brain tumors holds the promise of curing these cancers, which account for about 10,000 premature deaths annually in the USA.
- Promising results have been obtained in clinical trials for over 100 liver cancer patients using a new radiopharmaceutical delivery system which targets liver tumors. The drug called TheraSphere® is based on glass microspheres which are made radioactive in a URR and which will localize in the tumor bed, providing a highly localized dose to the lesion.
- Pain palliation in cases of bone cancer has been demonstrated in initial clinical trials of 20 bone cancer patients, using a beta-ray emitting isotope chemically bonded to a phosphonate molecule (EDTMP). Other tumor targeting agents such as monoclonal antibodies are being developed in collaboration with radiopharmaceutical laboratories and medical institutions.
- Neutron activation analysis is used as a powerful prognostic and diagnostic tool in the study of diseases such as Alzheimer's.

- Large quantities of radioisotopes for routine commercial use and a wide variety of special-purpose radioisotopes for research and testing are produced for the medical industry.

- The technique of using stable but activable isotopes for medical studies, e.g. related to trace mineral nutrition studies has enabled rapid progress. These techniques are safer, do not involve radioactive isotopes in human subjects, and have a wide range of applicability.

Materials Science and Engineering

- A new high-performance magnetic material, Magnequench® for lightweight and inexpensive magnets has been developed with the assistance of neutron scattering studies at a URR. Performance is three times better than SmCo permanent magnets. This new material will help the US automotive and electronics industries remain competitive.

- The only gamma-ray scattering laboratory in the USA has been developed at a URR. Applications of this capability include determination of the perfection of crystals grown in gravitational force-free experiments during NASA shuttle flights.

- Neutron transmutation doping of silicon semiconductor crystals on a commercial scale was initiated and large quantities of silicon crystals are routinely processed for domestic and foreign semiconductor companies. This method of neutron doping produces superior quality semiconductors for power rectifiers and other devices used in industrial and in defense applications.

- Radiation-induced failures of great concern for space missions, for military applications, and in large semiconductor memories have all benefited directly from R&D at URRs. Such work has resulted in circuits and components which are much more tolerant of the radiation environments in which they must operate.

- Large-scale irradiation of topaz gem stones to enhance their commercial value is carried out.

- Neutron scattering facilities are used by industry to help develop and characterize new materials such as supermagnets and polymers, which have important commercial applications.

- Scientists at URRs have discovered that fast neutron irradiation can significantly improve the performance of the new high-temperature superconductors.

- Millipore filters for the semiconductor industry, medical diagnostics, environmental sampling, etc., are produced in large quantities using URR irradiations.

- Quality control of materials and processes is carried out to assist US industry in meeting quality control specifications, resulting in improved cost and product quality. Trace element determination using neutron activation analysis is one of the most important services provided to industry for these purposes.

- Radiation-resistant detector elements have been developed for large high-energy physics detectors, which should result in savings of about $20 million per year for the Superconducting Supercollider project.

Manpower Development and Training

- URRs are an important training ground for university graduates who enter the commercial nuclear power industry. The most successful nuclear engineering academic programs are at universities which have URRs.

- URRs provide continuing education and training for many nuclear power plant workers.

- University reactors provide unique training for radiation health physicists, who are in short supply in hospitals; research laboratories; industry; in government positions, including the military services; and in the nuclear industry.

- Several of the larger URRs are the sources for a major fraction of our country's domestically-produced experts in neutron scattering. These experts are essential to the success of our national research reactor programs.

- In applications of nuclear technology such as neutron activation analysis and radiography the bulk of US education and training is centered at the URRs.

- Unique experience is obtained by students who assist in the design and construction phases of URRs, both new reactors and upgrades. Many of these students become leaders in the nuclear industry based in part upon their directly relevant experience at URRs.

Nuclear Power

- Technology has been developed that is expected to significantly reduce the occupational radiation exposure of nuclear plant workers. This will result in millions of dollars in cost savings each year, improving the public's perception of nuclear power generation and will make US nuclear power generation and plants more competitive relative to foreign competition.

- Sophisticated approaches to computer control and automation of nuclear reactors have been developed. This know-how is being transferred to special mission reactor projects such as space reactors and to the US nuclear power industry. Computer control leads to enhanced safety, efficiency, speed and reliability of reactor control. URR-based R&D is having a positive impact on the ability of the United States to maintain significant strength in the face of fierce international competition in these areas.

- Major R&D to improve structural material performance and useful lifetime is carried out in support of US light-water power reactors. The URR-based work is innovative and addresses important problems which have not been solved at the major national centers. Much of this work is supported by foreign companies, thus enhancing limited resources available in the USA. However, all results are also available to the US industry. An example of such work is a major research effort to understand irradiation assisted stress corrosion cracking using extensive in-reactor testing at a URR.

Automobile Industry

- Neutron radiography has been used to understand oil flow in shock absorbers and in engines during actual operation.

- Wear studies using radioactive tracers made in URRs help improve the performance of automobile components.

- Trace analysis using neutron activation has developed a clearer picture of catalytic converter degradation and environmental impact in automobile applications.

The Environment

- URRs have become one of the most powerful tools for studying the behavior of pollutants in the environment. Air and water pollution are being studied by neutron activation analysis to determine sources, transport, and deposition mechanisms.

- Cloud chemistry, which is directly related to acid rain, has been elucidated with studies using URRs.

- Sources of ground water pollution are traced to their origins and the actual levels of harmful components can be determined so that appropriate actions and responsibilities can be defined.

Geosciences and Planetary Science

- Most of the samples returned from the US moon expeditions were characterized at URRs.

- Geochemistry studies of the earth's crust and mantle depend heavily on neutron activation analysis using URRs. These studies improve our understanding of the subsurface behavior of the earth's crust and mantle and provide an important component of the models which are being developed to understand and predict major earth motion related to earthquakes.

STATEMENT OF THE MICROELECTRONICS RESEARCH CENTER, IOWA STATE UNIVERTSITY OF SCIENCE AND TECHNOLOGY

Mr. Chairman, my name is Howard R. Shanks and I serve as Director of the Microelectronic Research Center at Iowa State University. I would like to report to you on a major commitment to research and development of new thin film photovoltaic materials and the improvement of solar cells made by our staff in Ames, Iowa. Our Center provides the focal point for solar cell efforts by the University, industry, and government and is in a position to expand research and development efforts to improve the U.S. position in alternate energy sources.

Potential energy shortages, environmental problems such as acid rain, and global warming make it clear that we need to pursue alternate energy sources in the near future. To this end, Iowa State University has expanded its efforts in thin film semiconductors for application to photovoltaics. Both amorphous and microcrystalline materials are under investigation because these materials provide a major advantage in the fabrication of solar cells due to our ability to deposit them uniformly over large areas. It is clear that such ability is required if we are to make a significant impact on the energy production needs and requirements of the United States.

The Center at Iowa State University has been involved with thin film semiconductors since its establishment in the early 1980's. This program is an outgrowth of earlier work starting in the mid 70's in the Ames Laboratory of the Department of Energy. Continuing serious commitment to this project by the State of Iowa has resulted not only in the advancement of the research program but also in the construction of a 1 megawatt per year roll-to-roll pilot line. The capability to deposit device quality semiconductor materials on a continuous polyimide substrate opens up significant new application areas for terrestrial power generation and potentially for space applications where low mass devices are required.

This broadly based program with state-of-the-art facilities and research capabilities has resulted in the attraction of a number of outstanding researchers to the Center including five long-term experts from industry and academia who have played pioneering roles in the field of thin film semiconductors and photovoltaics.

They are Howard Shanks, Director of the Microelectronics Research Center at Iowa State University and formerly Senior Scientist at the Ames Laboratory; Frank Jeffrey, formerly of the 3M Company and the Solar Energy Research Institute in Golden, Colorado; Derrick Grimmer, formerly of the 3M Company and the New Mexico Southeast Solar Energy Research Institute; Joseph Hanak from RCA David Sarnoff Research Center and Energy Conversion Devices; and Vikram Dalal, formerly of the Delaware Institute for Energy Conversion, Chronar Corporation, and Spire Corporation. In addition, there is a permanent staff highly experienced in various facets of the semiconductor technology and a number of graduate students being trained in photovoltaic device fabrication.

Today this program involves a large number of faculty, research scientists, engineers, and graduate students working on all aspects of the problem from theory through film growth, device fabrication and applications.

The Program at Iowa State University

Iowa State University's photovoltaic program is focused on understanding and improving thin film photovoltaic material and devices with the goal of advancement and transfer of this important technology to production in the private sector through direct interaction with industry. Training of graduate students in the field and participation by visiting scientist from industry are also significant factors in transfer of the technology

The major thrust of the program is the development of high efficiency thin film solar cells by techniques which can be scaled up for mass production. Emphasis is placed on the broad base of research and testing available at the university and on bringing it to bear on the problem of fabrication of solar cells in a manner consistent with large scale production.

Current research projects within the University's program range from the development of theoretical models that define the fundamental properties of semiconductor materials through the development of new large area deposition techniques and to the pilot line fabrication of photovoltaic arrays and their application. Typical projects include:

> Theoretical Modeling of Semiconductor Materials. This work involves computer generation of large models of amorphous crystalline semiconductors using molecular dynamic simulations. Such computer generated structural information opens up a variety of possibilities for the study of physical properties and relating them to the experimental values. This is a very significant part of any long range effort for success in large area, high efficiency solar cells.

Film Deposition and Materials Studies. This program targets the development of new and improved deposition techniques for the preparation of photovoltaic materials over the large areas required while at the same time maintaining the required quality and properties needed for the fabrication of solar cells. New deposition techniques which are capable of scale up for production use are under intense investigation.

Long-Term Structure and Stability of Photovoltaic Material. This effort, funded in part by the utility industry, is looking at the long-term stability of the material for extended field application. Members of the Center have been directly involved in the study and characterization of these properties for nearly fifteen years. This work coupled with extensive efforts on film deposition is now being used to improve and control microstructure and properties in photovoltaic film for solar cells.

Photovoltaic Device Research. While the fundamental configuration of the solar cell is well developed and understood, all of the parameters must be optimized to obtain the maximum efficiency in such devices. This includes the stacking of multiple cells in a tandem configuration, the development of optimum surface coatings and substrates, and the proper packaging in order to provide maximum efficiency device. Work at Iowa State includes development of tandem cell configurations and advanced packaging and encapsulation techniques.

Flexible Substrate Pilot Line. Construction is nearing completion on a roll-to-roll pilot line for fabrication of thin film silicon solar cells. This ambitious and important effort is unique in a University setting. When finished, the system will be capable of production of 1 megawatt of cells per year on a continuous 12" wide polyimide plastic substrate. This line provides the basis for manufacturability studies leading to information on yields, quality, and fabrication costs necessary to design and build a production facility. Manufacturability studies coupled directly with the research program provide the most efficient, cost effective way to improve U.S. efforts in the development of alternate energy sources.

Photovoltaic Application. Because of the ability of the Center to prepare photovoltaic materials on flexible rollable substrates, there are opportunities to expand the applications of these materials to a variety of terrestrial projects. These include remote vandal-proof stand-alone power sources for such things as cathodic protection of bridges and pipelines, environmental monitoring, and communication systems. The Center is working closely with several companies to look at unique applications and also with several utilities to look at the potential for applications for grid power in the near future. This aspect of the program provides an opportunity for innovative graduate students to carry through with their ideas.

The Future

This dynamic program at Iowa State University has been supported entirely by funding from the State of Iowa and private industry. Because of the dedication of many individuals and their concern for our future energy needs, the program is moving ahead.

Although the program at Iowa State has already demonstrated considerable success in the development of production techniques for solar cells, to have truly national and international impact Federal Government involvement in the program is needed. Strong ties with and support from the DOE must be developed which can help provide the long-term stability needed for the research and manufacturability programs to move ahead in a timely fashion.

Currently, both Japan and Germany are investing significantly greater support in photovoltaics. If the United States is to remain flexible and competitive in its long range energy options, a mechanism must be developed which provides expanding support to emerging research and development centers such as the one at Iowa State University. Such dynamic and innovative centers can provide focused programs which generate new technology that is rapidly and effectively transferred to industry through direct interaction and well trained graduate students. This will allow the United States to compete on a more even basis with systems such as that in Japan where industry and universities operate much more closely.

STATEMENT OF THE NATIONAL AUDUBON SOCIETY

The National Audubon Society opposes an appropriation of $15 million in FY 1991 for research and development activities on geothermal plant sites located on the island of Hawai'i.

There has already been substantial federal involvement in the development of geothermal energy in Hawai'i; large enough to compel the nine federal agencies involved to initiate the preparation of a federal environmental impact statement under the provisions of the National Environmental Policy Act.

We request that any further appropriations for geothermal development in Hawai'i be held until a federal EIS is prepared which satisfies the requirement of NEPA.

Federal participation in geothermal development in Hawai'i to date includes:

1) DOE appropriations of approximately $27 million to the Hawai'i Deep Water Cable Program, an integral part of the geothermal energy master plan.

2) Membership on the "Interagency Group" composed of representatives of involved state, county and federal agencies. Eight federal agencies are formal members, including: U.S. Army Corps of Engineers, U.S. Pacific Fleet, U.S. Coast Guard, Environmental Protection Agency, U.S. Geological Survey, U.S. Fish & Wildlife Service, National Park Service, and National Marine Fisheries Service. The interagency group is the key coordinating body for the 500 megawatt geothermal project. The purpose of the group is the quickly move the project forward by streamlining the regulatory process.

3) Responsibility for various permits, approvals, and review for aspects of the 500 MW geothermal project. Some of the required permits include: a section 404 permit under the Clean Water Act, permits under sections 9 & 10 of the Rivers and Harbors Act, section 401 certification under the Clean Water Act, several permits to satisfy requirement of the Clean Air Act, and exemptions under the Marine Mammal Protection Act. The Sierra Club Legal Defense Fund has found at least 18 separate permits, approvals, exemptions, authorizations, and notifications that must be provided to federal agencies in order for the 500 MW project to proceed.

Although the State of Hawai'i is preparing an EIS, it is clear that the state wishes to "fast-track" geothermal development in Hawai'i. Moreover, NEPA requires the federal agencies to independently assess the economic, social, and environmental impacts of this major federal action. An appropriation of $15 million at this time will merely add to the public's uncertainty regarding the impacts of the 500 MW geothermal plant. An appropriation will also suppress a meaningful consideration of the alternatives to the project, including energy conservation measures.

CONCLUSION OF HEARINGS

Senator **JOHNSTON**. The subcommittee stands in recess.

[Whereupon, at 3 p.m., Wednesday, April 4, the hearings were concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]

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